I had a talk with a designing engineer, doctor of silvicultural sciences, scientific researcher within the Timişoara station of the National Institute of Silviculturai Research and Development in Bucharest. The author of several studies and works concerning forest regeneration, degraded soil recovery by afforestation, the capitalization of the forest stock from the tourist point of view and for health recovery, the creation of national

very acute in Europe, a conti-nent having a deeply scientific conception of long standing re-garding forest conservation."

"What steps could be taken for restoring forests to health?"

"It is difficult to assess how this disaster gould be. stopped, and corrected. Because it is not a question merely of regenera-

ting, recreating a landscape. The death of the forests deter-

mines true ecological catastrophes. A world devoid of forests is barren not only as a land-scape but also climatically. Seriously harmed is the great circuit of water in nature. As is known, the level of precipitation of the level has decreased.

tion on earth has decreased alarmingly over the last de-cade."

"Against this 'alarming' back-ground, what is the condition of forests in Romania?"

"Our forests are well manag-ed. Law No. 2 regarding forest conservation passed in 1987 provides an admirable frame-

provides an admirable frame-work for protocting forests and for reforestation. Optimistic, ionic prospects are opened through the drive of reforesting an area of 800,000—1,000,000 ha of degraded soil. The Romanian silviculturists have cleared plans of action in this respect."

"I know that for several years now you have concerned your-self with ecological reconstruc-tion. How is this mirrored in our forests?"

"We are working especially in the realm of ecological reconstruction in relation to mining activities, in the huge tailings deposits resulting from opencut or underground extraction or from stone Quarries where excavation led to the disappearance of the soil. That is, on the soils baving the highest degradation recfficient. As you know, the tailings resulting from flotation and decanting operations are deposited in the course of tens of years into luge mountains of silt or into dammed pyramids, creating a repellent, desolate landscape,

a repellent, desolate landscape, In the course of time, under the

in the course of time, under the impact of air currents and of the sun, these manufains of sand are a source of ecological disequilibrium not only for the respective area but also for the neighbouring ones. So far we have managed to of forest these mountains of fallings in the Manager Nava and Days area.

Moldova Nous and Deva areas. efficiently harnessing the water in the tailings silt. We have a few promising achievements.

nature reserves and the restoration of the ecological balance, my collocutor warned us of the dangers threatening the planat's forests.

"Dear Zeno Oarcea, you have travelled through and studied forests on several continents. Which is their present condi-

"Porests are beginning to thin out. The process is unfortuna-tely general and of a fremen-dous violence. Suffice it to mention the fact that the desert is expanding at an annual rate of eight km, over a more than 10-million-be area. 10-million-ha area, narrowing the fertile land".

"Is the process impossible to check?"

"The process is not irrever-sible. But it calls for mankind's concerted efforts. The irrespon-sible, savage felling of forests in nearly all continents, the un-controlled spreading in the at-mosphere of necessary elements produced by the modern tech-nologies, the deterioration of broduced by the modern tech-nologies, the deterioration of the soil through an intensive farming activity, massive and unselentific irrigations, che-mical fertilizers used irratio-nally and exclusively, unaccom-panied by natural, organic ones, inevitably lead to the expan-sion of descrip over widor sion of descris over ever wider areas of the earth."

"How do all these elements affect the forests' health ?"

"Quite significant la the fact

that the emanations of carbon dioxide, for instance resulting from the burning of Ugatto— which accounts for 70 per cent which accounts for 70 per cent of our civilization's energy—may irreparably affect the forest in the next 10 or 15 years. Adding to this are the acid rains gathering from the atmosphere sultur dioxide and nitrogen trioxide produced by various industrial processes and attacking the forest globally, from leaves, branches, trunks from leaves, branches, irunks and roots to the soil where they accumulate and which they eventually degrade. The massive withering of forests in Europe, an incipient phonomenon 10 years ago, is the outgoing of this accumulation of come of this accumulation of nocuous chemical elements. If one has never crossed a wit-hered forest, one council have ar accurate representation of the nightmare. The withered forests in central Europe are forests to which migratory birds never come back".

"Is this phenomenon about to become general in Europe?"

"Nearly so. It is only the Carpathian ranges that are more sheltered. As far as the Alps are conserned, the landscape they make up speaks for itself. It is increasingly rocky, and arki, Most alarming is the

afforesting impossible areas in terms of their soft, we have the guarantee that the methods used can yield fruit in the de-graded-soil areas which were graded-soil areas which were not subject to the successive exhausion caused by industrial processes. The afforestation of areas exhausted by agriculture is by far easier than that of areas degraded by mining acti-vities.

"And yet the study which has earned you fame deals with an unusual topic: "Principles of Developing Forests of Tourist Interest." What prompted you to approach this particular aspect of silviculture?"

"I have always been concerned with the man-forest relationship, the man-nature relationship and in this respect, it was not difficult to notice that was not notice that mankind, based on an industrial civilization, on ever more sophisticated technologics, on an urban habitat, is rapidly moving away from nature. In the last analysis, a town is a kind of desert too."

"Camus said that he knew no deeper desert than the town."

"Albert Camus was probably referring to the interhuman relations. Which is of course very serious. And yet his assessment confirms my thesis that in towns even nature is allenated. The sky-high buildings, the asphalt, the reinforced concrete, the cement create a divilization in which man feels ever more allen from nature. On the other hand, the rate of concerns makes man the prisoner of the office or lah where he works, of the living-room, kitchen or bedroom where he retires after his workday. Sometimes his only link with nature is the window (through which he may just see more windows, more just see more windows, more walls), the balcony and maybe a walk through the park, which a walk through the park, which is Just another component of the artificial landscape oreated by man. Thus, starting from the fact that man has developed in nature along millions of years and that his sectusion gives birth to a state of stress and may lead to nourosis and inability to work, I have tried to draw attention to the role playdraw attention to the role play-ed by the forest as an ecosys-tom, in restoring man's inner balance. That is why I have aired an original interpretation of the notion of landscape as an ecological, impressional res-lity."

"Which are the specific fea-tures of this landscape and how can they be recognized from an ecological point of view?"

"First of all, they can be recognized by the vital plane, of certainty, where functions the instinct of self-preservation and ensurance against any immediate danger in the field of observation. In the second place, by the warning plane stretching to the point where man can perceive the elements of motion. In the third place, by the indepth orientation plane, the background which ensures the quiet, balance and harmony. On the other hand, examining the amount of information obtained from nature, much smaller and less oppressive than in the city environment. I have launched the dominance concent:



totally dominated and totally dominant tandscape, with Im-mendiate repercussions on the human psyche. Then I studied the horizontal and vertical di-mensions of the landscape, drawing the conclusion that between gravily which attracts and the need to overcome gravity, man only finds himself in a state of balance in a natural environment. Only solden does nature produce right angles (apart from the rocky mountain scape) at the city does. The right angle is the resultant of dramatic tensions. Nature works with curves, which are reposeful, harmonic etc. Sotting out from these consideration, briefly stated here, I militate for the periodical return to nature and especially to the forest (at weekends in particular) for relexation and harmonic reequi-(at weekends in particular) for relaxation and harmonic recquilibration. Therefore I started to classify forests according to their landscape and climatic qualities in regeneratin man's vital and spiritual tonus. I did this for all the forests in itemania, proposing methods of protection, organization and administration of those having a touristic potential."

"The proposais I submitted to the Academy Include the forests in the Rodna, Cāliman, Ceahlāu Mountains, the Bleaz Gorges, Hāsmas, Buçegi, Piaira Craiulul, Cozla, Relezat, Mountains, Cerna Valley, Nera Gorges, Caras-Semenic Gorges, Apuseni and Drocea Mountains and the Danube Delta — the only forest outside mountainous areas. All these are "natural parks" or "national parks" which meet some fundamental principles: they are not altered by human

natural ecosystems, are grouped together and therefore casy to manage and administer."

"Mountain tourism bossis long-standing traditions in llo-mands, What use its specific traits 7"

"Unlike lourism in the Alps. for instance, with stopovers in big urban agglomerations turned into international spas which imply all the disadvantages of "artificial civilization", our tourism is mainly pedestrian for walks, trips, with stops at chalets. Thus for a tourist who enters the Romanian mbuntates at Horgulane there are interestenters the Romanian mbudates at Herculane there are interesting routes through more or less forested regions, without stops in urban centres, up to the place where the Carpalhians leave the country, at Bucovita's Pristop pass."

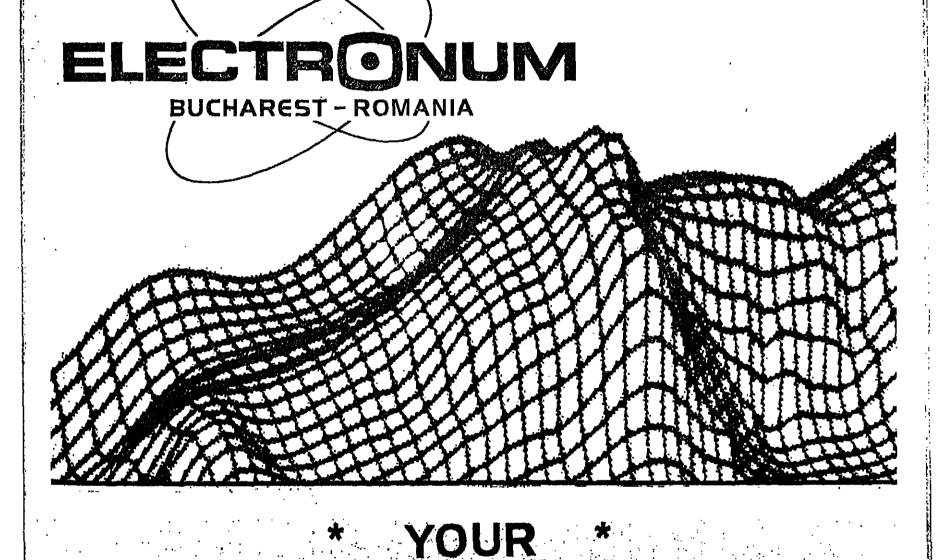
"You are talking about holi-day tourism. But a trip into the mountains becomes too compl-cate if one wishes to return to

"I have worked out a few studies concerning tourism in the forests around Arad. Timisoara, Beva. Clui, Oradea, Sibiu. Caranaobes. Petrosaul. Resita. at the request of some travel offices. Much to our anisyfaction nearly all Romania towns are in the vicinity of ferests which can offer townspaped wonderful places for recreation and therapeutic recevery."

incresore Romania is a distinct case as regards forests. They are protected, methodically repopulated and in certain areas organized for tourism. Yet the forests "health condition" does not depend on us also

ROMANIAN

FREE SUPPLEMENT TO NO 49 (558) DECEMBER 9 1988



ELECTRONUM FOREIGN TRADE COMPANY

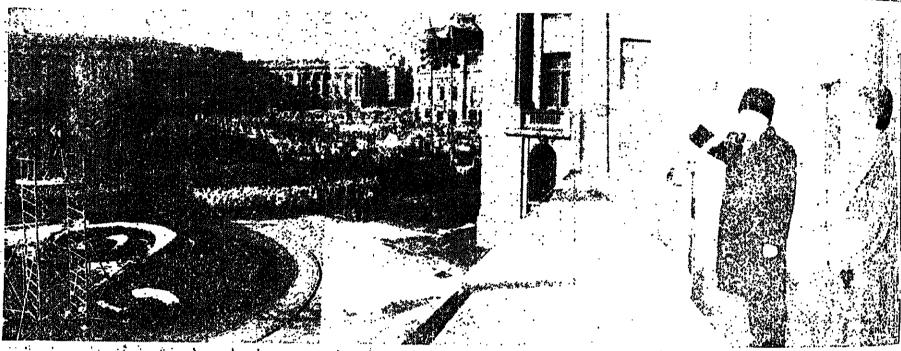
BUCHAREST - ROMANIA . 28-30 GH, MAGHERU BOULEVARD TELEX 11547, 11584 • PHONE 137081 POB 22-111



NOW, WHEN WE CELEBRATE 70 YEARS SINCE THE CREATION OF THE UNITARY NATIONAL STATE, WE CAN ASSERT WITH JUSTIFIED PRIDE THAT SOCIALISM ALONE HAS BEEN ABLE TO ENSURE THE GENERAL RISE IN THE PEOPLE'S WELFARE, TO ENSURE THE CONSOLIDATION OF INDEPENDENCE AND SOVEREIGNTY, TO FULFIL OUR PEOPLE'S CENTURIESOLD ASPIRATIONS AFTER A BETTER FREE AND INDEPENDENT LIFE.

NICOLAE CEAUSESCU

the speech to the big civic rally marking the 70th anniversary of the creation of the unitary Romanian national state



THE BIG CIVIC RALLY DEVOTED TO THE ANNIVERSARY OF 70 YEARS SINCE THE CREATION OF THE UNITARY ROMANIAN NATIONAL STATE NICOLAE CEAUSESCU'S

Over 120,000 citizens gathered, on Wednesday, November 30, in the marning, in Republicii Square, in Romania's Capital in order to honour, during a grout and improssive event, the creation, 70 years ago, of the unitary Romanian national state.

In the big square in the cen-tre of the Capital there were esentatives of all countles of Bucharest municipality workers, peasants; intellectuals, students and pupils. They eame to pay homage to the beloved homeland which free, master of its own destines,

country's flag and arms, portralis of Nicolao Cenuseacu and Elena Ceausosou, the arms of

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their shoulders.

All those present in the big square entinusiastically welcomed Nicolae Ceauseson and Elena Ceauseson upon their exit from the Palace Hall. Those who had come to the civic rally wanted to convey the Parly General Scoretary, President of Romania, Nicolae Ceauseson their feelings of love and bigh appreciation for his restless activity devoted to the continuous flourishing of the homeland, the development of all country's counties, to the people's happiness and well-being, Romania's growing role and prestige in

Jicading towards the head-quariers of the Party Central Committee Nicolne Coausesou and Elona Ceausescu crossed the Republicil Square through a trully live corridor, made of delegates of all the coun-try's counties and of Bucharest municipality.

Scores of young men and women, joined in a large Union Hora in front of the Party Coniral Committee headquarters, thus wishing to revive a long-standing tradition—an emetion gripping symbol of the Romanian people's will of union, of unity, Vicolse Caudisen and Elena Ceaugeson were invited to join the hara.

Then, from the balcony of the

Central Committee bedduar-lors, Nicolae Ceautosau made a brief and inspiring speech, kd-enly followed by all the parti-cipants in the great rally and through the rallie and loleyi-sion broadcast, by the whole

On the occasion of our great anniversary of Decomber 1, when we colebrate 70 years since the creation of the unitary Romanian national state, 1 wish to address all of you who came to this great manifestation for the Union, to our whole people, fields i

years ago fulfilled our people's centuriesold aspirations after living united, after working together, in

order to build a new, better, free and happy life. able to ensure the general rise in the people's welfare, to ensure the consolidation of independence and sovereignly, to fulfil our people's cen turiesold aspirations after a better, free and inde-

Let us honour the creators of the uniter Rote achievements, with the resolute decision to cal out unflinchingly the Party's Programme of building

We wish to collaborate for peace, for

Pendent life.

As I declared shortly before, upon the conclusion of the great democratic forum, let us pledge to de of the great democratic forum, let us pledge to do tivity, good health and happiness I

On Thursday, December 1, on the colebration of 70 years single the creation of the unitary Romanulan national state, wreaths of flowers were laid on the Memorial to the birdes of the strusgie for the noutle and the homeland's freedom, for socialism, and on the Memorial to the homeland's freedom, for socialism, and on the Memorial to the homeland's freedom, for socialism, and on the Memorial to the homeland's freedom for Buch, wreaths were laid on bobalf of the Party Comeral Secretary fresident of the Republic Nicolas Coatscool, of the Committee of the Romaniah Communist Party, of the State Council and Romanias Lovernment, the Orang National Assembly, the National Council of the Specialis Denicoracy and

Unity Front, the Ministry of National Defence and the Ministry of Internal Affairs, the Central Capital of the General Trade Union Contederation, the Central Committee of the Union of Communist Student Associations in Remanis and the National Council of the Young Flonters Organization, the National Council of the Young Flonters Organization, the National Council of the Bucharast Municipal Committee of the RCF she be Bucharast Municipal Committee of the RCF she be Bucharast Municipal Committee of the RCF she be Bucharast Municipal People's Council, the Council of Romanian Working People of Mayar Nationally and the Council at Monanian Working People of Comman Nationality as Nationality of Various Bucharast Sentes prises.

Wreaths were also all selections where the diplomatic problem is a problem in the property of the manners of the mann

DEVELOPMENT RATES

As we informed you in our last issue, the country's supreme legislative forum — the Grand National Assembly — adopted in its Thursday, December I meeting the Law of the single national plan agriculture, the food industry, sliviculture and water management, and the Law of the 1989 state budget. On the following day, the Grand National Assembly unanimously

approved the Programme of self-management and self-sufficiency for the adequate supply of the population with farm produce and industrial consumer goods in 1989; the Law of improving the croancial mechanism by bettering the price-fixing system; and the Law of improving the remuneration system for the stimu lation of export production and exports.

Before the parliamentary session, the documents concerning Romania's socioeconomic development over the next year had been discussed by the joint meeting of the plenum of the CC of the RCP, of democratic bodies and mass and public organizations.

Worked out under the direct leadership and guidance of President Nicolne Ceausescu, the above-mentioned plans as well as the state budget for next year are almed at the further development i the productive forces at a steady pace, the accentuation of ntensive growth, the strong assertion of the new technicoscientific revolution and of the new agrarion revolution, the rise of the nalional income, the permanent increase of the entire people's maof the Thirteenth Congress and of the National Conference of the Party, being meant to ensure conditions for the development of all activity sectors, for the fulfilment of the Party Programmo of building the multilaterally developed socialist society and Roma-

An essential, defining element of the plan and budget for 1989, characteristic of the broadly democratic system existing in the entire economic and social life in itomania, is the substantiation and elaboration of the provisions contained in these documents with the active participation of the workers, foremen, technicians, engineers, the collective management bodies in enterprises, research nstitutes, centrals, county people's councils, ministries and the olber central bodies, which debated and improved plan proposals during the recently hold working people's general meetings. Next, the draft plans and budget were examined and approved by the





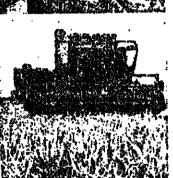




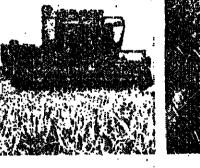










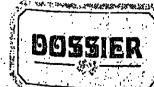




this weeks

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PREPARES reportage ITS FUTURE



ECONOMY CHEMISTRY AND PETROCHEMISTRY

THE DEVELOPMENT STRATEGY OF ROMANIAN

A DYNAMIC BRANCH WITH MODERN ORIENTATIONS IN THE STRUCTURE OF PRODUCTION STEPPED UP DEVELOPMENT OF THE SUBBRANCHES. WHICH TURN RAW MATERIALS TO BETTER ACCOUNT SA TECHNICAL AND PRODUCTIVE POTENTIAL OF HIGH ECONOMIC EFFICIENCY THE CONTRIBUTION OF SCIENTIFIC RESEARCH AND TECHNICAGICAL ENGINEERING SOME THAN 230 GROUPS OF PRODUCTS EXPORTED TO 100 COUNTRIES.

(PAGES 4-5-6)





CLEAN AIR FOR THE EARTH (PAGE 8)

Romania maintains commercial ties with 148 states, About 100 of them are developing countries, which strongly shows countries, which strongly shows the importance Romania attaches to the promotion of her irade and cooperation relations with this group of countries with which she is linked by close points of view on certain major issues of international life such as the establishment of a new international economic gaps, the removal of the artificial barriers hampering world trade etc.

In this context, Romanian-Syrian collaboration has developed in many areas, its amplification being also emphasized by the assideous presence of Romanian firms at the Damascus International Fair.

At the 1938 edition of the fair, 11 Romanian foreign trade enterprises — Maginexportimport, Electroexportimport, Universal Autotractor, Vitrocim-Forexim, Contrasimex, the National Aeronautical Centre, Chimica, Danublana, Metaley.

tional Aeronautical Centre, Chimien, Danubiana, Metalex-portimport, Confex, Romano-exportimport — placed at the

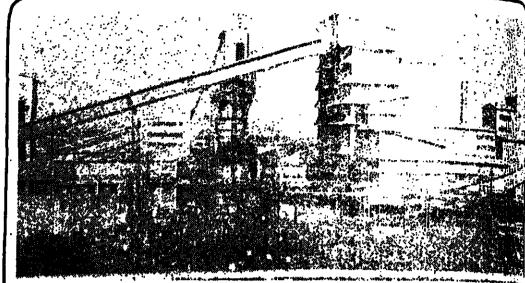
disposal of those who visited their stands a number of pro-ducts as well as a wide range ducts as well as a wide range of information on their exhibits, and on the other products included on their export lists, covering such fields as electrical engineering, machine building, woodworking, building materials industry, chemistry, petrochemistry, metallurgy, light industry etc.

The rigorous sciection of the most compositive and represen-

most compositive and represen-inity items accounted for the appreciation expressed by the appreciation expressed by the public, specialists and tradesmen for the chemicals, original drugs, high-alloy, highly pure sieel and metallurgical products, and high-precision, universal machine tools.

A brief survey of Romania's participation in the Damascus '88 tair highlighted the contribution made by this presence in the dynamization of blisteral collaboration through the

ral collaboration through the signing of valuable deals on exports to Syria and to third markets in the Middle East by the Romanian foreign trade en-



ROMANIAN-INDIAN COLLABORATION

An important metallurgical enterprise, the policizing factory, the fruit of Romanian-Indian cooperation, is now in operation in the Indian locality of Mangalore.

The supervision of its building, the equipment (the sintering machine, the lime furnace and the complex installations in the raw materials storing area) are the outcome of the activity of the specialists at the Metallurgical Research Institute and

nion technicians with his wheel drive and independed wheels is adequate. This, receilent comfort is ensure, the car being perfectly adopted any kind of terrain." All in the the operation satisfactory in the the operation satisfactory. same time, the practical gazet system is praised and so are the fuel consumption (seven bird and less for 100 km) and ix powerful and well equilibrated

the terring to the ear's maney viability, the magazine conducts: "The city behavior of the Emduro 10.4 IWS ray suffer a real surprise: the talk quick, comfortable and balo castly." Romanian ARO III-lent

cars are known and soldied is more than 90 countries of il continents. Participalist is series of international man Romanian oar placed bis other similar cars mak countries with tradition in its field. Some four fifths of Boar nia's present all-term t production is expert boost.

Page willes by T. PESCARU AL. MARINESCU

Two types of ARO sile-ritis cars built at Cimpulan Museol have riveted the st-tention of experts and bu-tention of experts and bu-

ARO - A RECONFIRMATION

The Italian magazine Gento Motori makes in its 38th issue a presentation of the Romanian all-terrain car ARO-10 with its variants Enduro 4xi IV, Super-Isohia and 10.4 IWS, "The line of the 10.4 IWS car" writes the above Italian publication "is alexant and obgant. The car

oar and has the finishing of a 4x4 car. The 10.4 1W8 sedan version tosted by us is characterized by a caroful finishing and metallic paint."

Also, the specialized Italian magazine, referring to a series

ienico-functional charactorisiles of the Romanian car notes
that "it has a roomy interior
and both the driver and passengers have comfortable seats,
the transport capacity being inoreased by the rear door which
opens vertically". The author
points out the dashboard which
is very complete and easy
to read, the ear's finishing, the
materials used being of good
guality, "The controls are loca-SALON: VOITURE ET MOTO DE COLDEC RALLYES: TUNISH ET TRANSAMAZONIENNE. ied in a very good position, be-ied in a very good position, be-ing projected from blows, while in point of suspension, the solution adopted by Roma-DOSSIER: POUR UN ME PARIS DAKAR

A WELL-KNOWN FIRM: "AUTOBUZUL"

Specializing in the production of passenger motor vehicles, the Autobuzu! Enterprise of Bucharest has been manufacturing through and irolley busing turing buses and irolley buses for over 30 years. In parallel, since 1988, the firm has been building minibuses and various types of utility vans making up the second category of motor vehicles on its manufacturing list.

These groups of vehicles still represent the unit's specially. Today, third-generation buses are serially manufactured white fourth-generation ones are being designed, Utility yang have seen the same fast-paced evolution. Trolley buses are even one step shead the fourth generation is being manufactured while the fifth is in the designing stage. So far the unit has turned out and delivered hundreds of thousand trolley buses and utility vans. Ourrently produced see it types of buses, and over so types of utility vans. Sanding out smooth from are she DAC 11 UDM and DAC 11. UD buses, bath of them fitted with 18 presented and reviding resemble cointer, ROCAR 111. UDK and ROCAR UDK special These groups of vehicles still

iy designed for iropical cap-irles; ROCAR 317, B pag ROCAR 318 E frolley pag seating between 158 and page 15 and saving up 30-30 miles cleeting power; BODAR in cleeting power; BODAR in (24 seats) minibus, mains as urban transportation, seems in the liner or courism; these mains one, cleven or regard mains one, cleven or regard to be equipped with 185-55 he equipped with 185-56 he equipped with 185-56 he equipped with a present the course of the cour

ROMANIAN NEWS

DEVELOPMENT **RATES**

Executive Political Committee of the CC of the RCP and by the

wember 25-35.

While the whole world continues to be plagued by acute instances of economic crisis, materializing in a slowing-down or stagnation of the growth rate and in rising unemployment, itemania undertakes to achieve a high development rate in the coming year. Thus, the national income is to grow at a pace of cight-nine percent, higher than that of the social product — which will rise by 5.5-6.5 per cent — while foreign trade will go up by seven-eight

Coffainly, in order to attain these high rates, the condition of industry as a basic branch of the national economy will be concollated, simultaneously with the permanent improvement of its sirugiure, which will actually be the salient feature of the 1989 plan. On the average the industrial marketable production will riso by six-seven per cent, higher rates being stipulated for the high-tech subbranches providing for a botter capitalization of material resources and the labour force. Also, special attention is granted to the expansion of the raw and energy materials base, to the identification and capitalization of new resources.

Through all its provisions, the Single National Plan of suclorednomic development lays special emphasis on the qualitative, intensive sides of material production, from the level of enterprises to that of the national economy, to the growth of criticioney in all areas of economic and social life. Compared to this year's figures, the plan stipulates a seven-right per cent rise in Labour productivity and the reduction by 35 let in total expenses for 1,000 let worth of marketable production. In order to translate into life these provisions, measures are established for improving the managing acivliy, with a view to fully observing the established expenses and inputs, improving the organization and norm-setting of production and the system of financing and crediting the economic activity. Also, in keeping with the objectives of the new agrarian revolution. the plan attaches special importance to the intensive growth and modernization of agriculture, whose global production is to increase by 5-5.5 per cent over this year.

Certainly, there is a powerful material base in all fields of activity, in every county, allowing for the 1989 plan provisions to be fully implemented. It is essential for these conditions to be judicaously turned to good account, with an increased officiency, so that every collective of working people may carry out their tasks. In this respect, a decisive role devolves on the measures improving the organization and modernization of production, by applying the latest gains of science and technology. Heavier stress will continue lo be laid on the contribution of scientific research and technological engineering to addressing questions related to the modernization of production and make technologies, curtaliment of material and energy consumption, introduction and expansion of new mechanization and automation systems ensuring the complete carried and energy production and expansion of new mechanization and automation systems ensuring the complete carried and energy production and expansion of new mechanization and automation systems ensuring the complete carried and energy production and expansion of new mechanization and new mechanization a plialization of the strong potential possessed by Romanian science.

The output and efficiency increments stipulated by the plan, withoutput reflected in the high-rated growth of the national income, the ensurance of resources for the conclusion of the working personnel's pay rise action, the increase in the volume of souds sales and public services are all almed at creating conditions necessary to permanently raise the material and cultural living standard, the quality of life.

Falling in this line are also the provisions of the Programme on self-management and self-sufficiency, which stipulate the increment of deliveries — compared to the provious period — of the basic larmfood products: meat and meat products, fish, milk and dairy product, vegetables, pointies and fruit. Larger increases will be recorded by deliveries of meat and fish preparations.

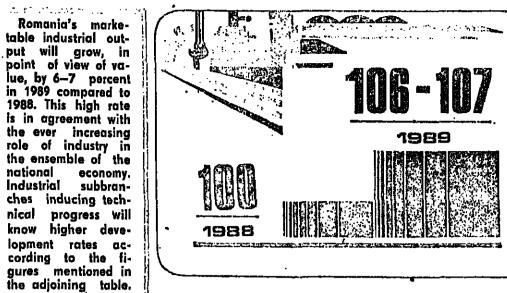
Requisites are met for each county to fully supply its population with farmfood products in 1989. The assessment is based on the fact that the requisite state of the state

the fact that this year's harvest has been quite rich, and the targets lasing farming units — both state-run and cooperative — throughout the country in 1989 are higher than this year's.

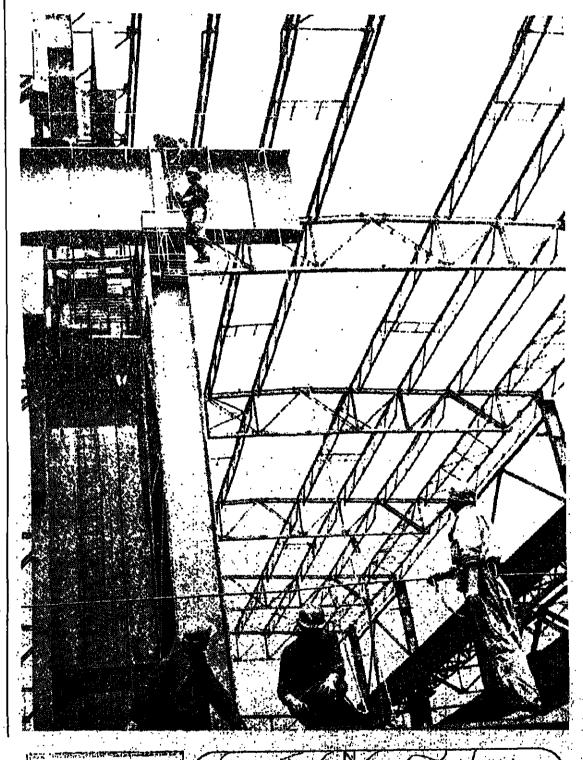
Substantial increments are stipulated for the deliverles of non-food products, too — garments, fabrics and footwoar, durables, household appliances, other industrial goods —, thereby supplying the population with a diversified range of goods of high technical and qualitative parameters.

In working out the programme, account was taken of the in-trease in the population's incomes following the wage and pension rises — an action which has so far bonofitted about 4.8 million people and is to conclude next year on August 1. In 1980, the population will therefore each in by over 28 hillion lei more, which, given that the general level of prices is manifained, will allow of better meeting consumption needs and satisfying in a larger measure the needs of goods and services of all categories of citizens.

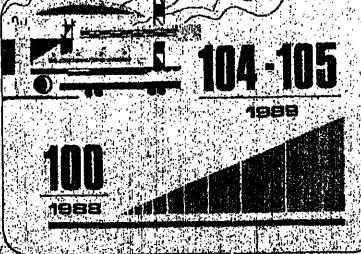
1988



Growth of the industrial markatable output value



The national ravenue will grow, next year, as against this year, by 8-9 percent, at a rate higher then that of the social product's growth, That is translated into higher efficiency in all domains of the productive activity. productive activity investments, which will increase by 4–5 acrosht, will be meant first of all for industry and agriculture, and also for the pther branches of the national aconomy.



PRODUCTS IN GREAT DEMAND

Besides being a great dational asset, the forest offers a large larder full of consummer goods. To prove this Vanhui county's slividultural department delivers a varied range of bugely solicited products to both the internal and external markets. Some 40 per cent of the goods-production volume turned out by six forest contres of the Vasiui County Inspectorate is exported to many countries of the world. We received that place of informalisti from enginees of the subsection, while added institution, while added that a large variety of goods are in high demand in the market.

kets of scores of countries of Europa and other continents. For instance, through the foreign trade enterprises of ICECOOP-ILEXIM Fructexport and Prodexport we deliver more than 180 types of baskelry made of osior (boskels, tables, shalts, etc.), 10—15 new products creating of by our own designers are added every month on the production list. They are solicitied by many countries including Italy, France, West, Germany, Great Britain, Boldum, the Netherlands and Sweden, At the same time we deliver freat forest fruit transporties, goose berries, sweet charries, sout aberries) to the Netherlands.

Wost Germany and France, while honey, (some 100 tons aunually) royal jolly and other aplarian products are sold to France, Great Hritain, West Germany and Japan.

At the same time we supply the world market with pheasants (over 20,000 pieces delivered overy your by the Hust Silver Control and its hunting subbranch) to Great Britain, itsip. France, Wast Germany) as well as live bared, and pheasants for roughlatiod in France, Italy West Germany in Notherlands and Adsiris. Same (some 10 tons of deers wild bears hares, per annum) sold is contain Burtphan contained.

A DYNAMIC BRANCH WITH MODERN ORIENTATIONS IN THE STRUCTURE OF PRODUCTION & STEPPED-UP DEVELOPMENT OF THE SUBBRANCHES WHICH TURN RAW MATERIALS TO BETTER ACCOUNT • A TECHNICAL AND PRODUCTIVE POTENTIAL OF HIGH ECONOMIC EFFICIENCY • THE CONTRIBUTION OF SCIENTIFIC RESEARCH AND TECHNOLOGICAL ENGINEERING • MORE THAN 230 GROUPS OF PRODUCTS EXPORTED TO 100 COUNTRIES

The present potential of Romanian che- | 2.7 days for butanol, 3 days for caustic, 5.4 mistry and petrochemistry has been practically created in the postwar period. In 1938, Romania's best pre-war economic year, the national chemical industry turned out a limited range of products (smoke black, chlorine hydride and sulphuric acid, soda ash and caustic, synthetic ammonia, artificial fibers and yarns, butanol, pulp and paper, ethanoic acid, lacquers and dvestuff) in absolutely insufficient quantities for the needs of the economy. And all this in the conditions of a rich raw material base (oil, natural gas, sait, coal, etc), for whose capitalization world-reputed Romanian scientists had made highly successful researches and tests.

rches and tests.

The whole production of 1938 is presently put out in 1.5 hours for ammonia, 14.4 hours for ethanoic acid, 1.4 days for artificial fibers and yarns, 1.8 days for smoke black, 2.5 days for chlorine hydride,

As part of its socioeconomic development stratery. Romania opted for the creation and stemped-up development of the chemical industry, in particular of its subbranches able to turn to better account raw materials—we were informed by Ion M Nicolae, B.Eng. Minister of the Chemical and Petrochemical Industry. As a matter of fact, the sevenfold growth of the petrochemical industry aver the 1965—1987 interval triggered essential changes in the ensemble of the whole branch, creating prerequisites for the Romaing prerequisites for the Roma-nian chemistry and petroche-mistry to reach a level similar

mistry to reach a level similar to that scored by the developed industrialized countries. The chemicalization degree of crude grew over 1.8 times over the 1980—1987 period, preoccupations and efforts being focused on turning the country's limited resources to a better and more efficient account.

The evolution of Romanian chemical and petrochemical industry was marked, in the 1985—1987 interval, by the enrichment of the technical—and material base of the entire branch. The stress laid on development, the substantial material funds extracted by the state materialized in the construction and commissioning of

1,250 production units of chemistry and petrochemistry throughout the above-mention-

throughout the above-mentioned period.

As a consequence — Ion M. Nicolae went on — today Romanian chemistry and petrochemistry are present in all Romania's 40 counties and in Bucharest municipality which covers almost 10 per cont of the overall national chemical output. This basic branch of Romanian economy offers today the image of an industry in full swing of development, modernization and

of an industry in full swing of development, modernization and diversification, with a speciatular uninefold growth from 1985 to 1987, at an annual development rate of 10.5 per cent, higher than the average mark recorded by the whole national industry.

At the same time, over the interval new production specialties were set up, actually new subbranches, such as the production of synthetic fibers and yarns, catalysis, synthetic resins, dyesiuff and colouring agents, photosensitive products, highly pure reagents, products of the fine synthesis chemistry and many others. The dynamic evolution of the chemical and petrochemical industry has contributed to a more marked srowth of its share in the country's industrial productive po-

iential to nearly 20 per cent presently, as against 7.5 per cent accounted for by the res-pective branch in the overall industrial production of the industrial production of the country more than two decades

days for sulphuric acid, 7.9 days for soda ash. Adding to them were hundreds of ot-

her highly efficient products, so that at the

beginning of the ongoing five-year plan

period (1986-1990) the respective branch

ensured an overall production volume,

1,200 times larger than that registered in

1938, in an extremely varied range of types

DOSSIER

and variants.

ago.

The dynamic evolution of the The dynamic evolution of the Romanian chemical and petrochemical industry is obviously the outcome of the homo-grown scientific research and technological engineering which have placed at the disposal of units modern and extremely efficient icchnologies, results of an incontestable practical value. As a matter of fact the performance of this sector is coordinated at a national level by the Contral Institute of Chemistry in Bucharest which comprises units of research and design, centres of research and design, centres of research and petrochemical plants, being integrated with higher education research. The entire scientific research and technological engineering network (comprising 27 units with more than 20,000 highly competent siaff), becomes increasingly involved in the settlement of original technologies, able to turn to better account raw materials and consummed energies, in the conditions of achieving highly competitive products. The results of home-

Partial view of an installation from the Chemical Plant in town of Fagaras (top right). Aspect of a section of the Stable its Pibre and Yarn Plant in Ravincett, the planeer of the dustrial production still preserving its prestige—as share an quality of its products.



condum some 30-38 net cultime volume of he with the set of national jeetneders white new this percentage with the process of set of the process of the process

ROMANIAN NEWS

MODERN COOPERATION WAYS

For several years now, the Romanian chemical and petrochemical industry has promoted, either directly through its research institutes or big plants and productive units, or by means of Danubiana and Chimica foreign trade enterprises, modern collaboration and cooperation forms: the erection of productive units, cooperation in and specialization of production, the delivery of technologies and knowhow, studies and designs, granting technical assistance, specialized personnel training, a.o.

Another way used by Romania in this field is the creation of joint ventures for commercialization or production and commercialization. Among joint ventures commercializing Romanian chemical and petrochemical products in the international market there are: Arcode (Great Britain) Decofra (France), Romital (Italy), Contichemie and Victoria Reifen (West Germany), Amrochem (USA) and Carochem (Spain). Also, the joint Romanian-Italian venture Rifil for production and commercialization, carries out its activity in spain). Also, the joint administration venture kill for production and commercialization, carries out its activity in Romania. Based in the town of Sävineşti (where there is a big synthetic fibre and yarn plant), the venture has mainly in view the production and commercialization of acrylultrile

The above mentioned production and commercialization joint ventures make an important contribution to the devel-opment and diversification of Romania's trade exchanges, the extension of collaboration and cooperation with more and more countries in the field of chemistry and petrochemistry based on equitable, mutually advantageous relations.

raw materials, a series of ear paris with Romanian polyesters, etc. Over the last quinquennium alone, stressed Minister Ion M. Nicolae, out of a
total of 1,700 studied and homologated technologies, more
than 1,100 have been applied in
production at a national level
or as productive pilots. These
original technologies aimed at
sapitalizing national raw materials, developing the fine syntcapitalizing national raw materials, developing the fino synthesis chemistry, upgrading the quality of products and enlarging the production list, curtailing energy and material consumption. In the above-mentioned period the sectors of synthetic rubbers, plastics, chemical fertilizers, nest killers, duras, delergents, dycstuffs and other fields scored an integral arias, neight scored an integral production on the basis of home- grown technologies. spi to ensure the material and tech-

nical progress of the industrial and agricultural output, thus climinating imports.
International statistics rate

Romania among the most im-portant manufacturing countries in the field of chemistry and In the field of chemistry and potrochemistry with a dynamics getting ahead of the other economic hranches stage by stage, hanks to the dynamic evolution of the production of chemical fertilizers, synthetic rubber, plastics, chemical fibers and yards, as well as to the continuous diversification of the list of organic synthesis products, drugs, dyestuff, auxiliaries, detergents, lacquers, etc, Romania reached the level of the develoned countries.

The increasingly larger potential of Romanian chemistry and petrochemistry is to be found

petrochemistry is to be found



Aspects from the bulk urea warehouse of the Chemi-

cal Fertilizer Plant in Arad (top right). Snapshot from the Antibiotics Enterprise, Iasi (middie). Aspect from the Plastic Goods Enterprise in Bucharest (bottom right)

tion at Valea Călugărească, where now there is a plant producing hundreds of times more fertilizers in a much more varied range.

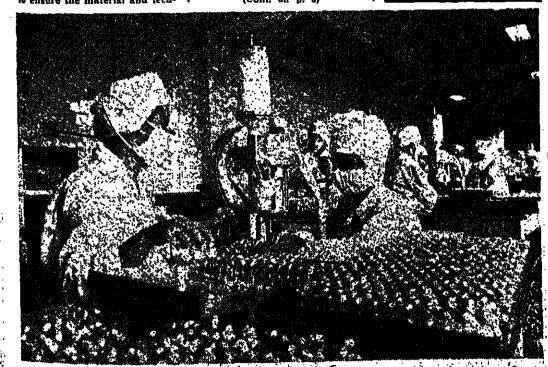
The Romanian entput of chemical fertilizers has developed and diversified continuously; the technical and material base of the subbranch comprises 11 large works such as those of Craiova, Tirgu Mures, Turan Magurele, Slobozia, Bacău, Platra Neamţ, Arad, Năvodari, Făgăraș, Victoria and Vales Câlugărească. These three units are now producing over three million tons of chemical fertilizers (100 per ceni active substance) in a varied range; granulated urca, crystalized (cohnical urca, ammonium nitrate, nitro-limente, ammonia sulphate, NPK-type complex fertilizers, diamonalum sulphate, triple and simple superphosphate, liquid for-

In 1933 Romania's production of chemical fertilizers rose

to 1,100 tons. It was turned out in a rudimentary installa-

tion at Valea Calugareasca, where now there is a plant pro-

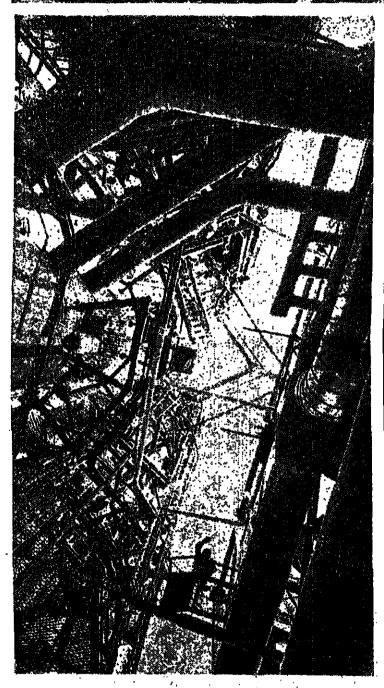
ammonia sulphate, NPK-type complex fertilizers, diammonium sulphate, triple and simple superphosphate, liquid fortilizers with nitrate (directly applied in soil or introduced in irrigation water), etc. In 1800 the fertilizers output will rise to 4.5—5 million tons (100 per cent active substance). Meeting entirely the demands of the national agriculture, the fertilizers industry ensures at the same time important export availabilities. Such products delivered to some 80 countries, the export volume increasing three times over the last decode. Presently, Romania is one of the main world suppliers of chemical fertilizers. world suppliers of chemical fertilizers.



ORIGINAL DRUGS

The fine synthesis chemical industry developed of an accelerated rate, based on technologies; elegated by the Romanian scientific research and technological engineering. The drug industry for example, has continuously developed and diversified its production - six ilmes over 1963-1967 - covering, in a proportion of 94 percent, internal needs, and offering important quantities for export. The Romanian drugs and phormaceutical products are delivered to tens of countries on all continues, the specialized Romanian industry has been considered by diversified (húndreds and húndreds of types of drugs and phormaceutical products are obtained in drugs and phormaceutical products are obtained of drugs and phormaceutical products are obtained in d





Romanian chemistry and petrochemistry offer today the picture of two industrial branches in full swing of development, modernization and diversifection, with a marked dynamics. In the 1965—1987 interval, for instance, significant growths were recorded with the main products, above the average value registered by the whole branch: aluminium — 27,7 times, high analysis chemical fertilizers (100 per cent) — 13.2 times, artificial yarn and fibre — 10.2 times, synthetic yarn and fibre — 70.5 times, nolychylene — 11.1 times, polychyl chloride, drugs, synthetic rubber, lyres etc.

These quantitative increases, coupled with concerns with raising the products' competitiveness, resulted in important export increases over the same interval: synthetic yarn and fibre — 136 times, drugs — 65 times, chemical fertilizers — about 210 times, artificial yarn and

fibre — 15 times, delergents — 20 times, virulaites and dyes — 35 times, plastics, synthetic resins and processed products — 5,8 times, tyra — 1.6 times etc.

During the current quinquennium (1986-199) During the current quinquennium (1986–189) Romanian chemistry and petrochemistry continue to see a marked dynamics. While the foil rolume of Romanian industrial production will grow by 31–37 per cent compared to the 1981–1985 thee-year plan period, chemistry and petrochemistry will record a 50–51 per cent increase, with an average annual development rate of 8.5–9.0 per cent, this branch being further oriented primarily fowards the superior processing of indigenous raw materials. Larger increments are to be registered in fine synthesis chemistry, smull-tonnage products, highly pure reagents and other pure chemical substances.

also in the country's commercial exchanges. The chemical and petrochemical products account for some 25 per cent of Romafor some 2j per cent of Romania's overall export volume.
I'his branch supplies partners'
in over 100 countries on all continents with approximately 230
groups of chemical and petrochemical products. At the same
time, thanks to the experience
acquired by Romania in this
field, a series of countries such
as Jordan, Pakistan, Turkey,
People's China, Egypt, the DPR
of Korea! Syria, the USSR,
Yugoslavia, Iran, have asked
Romanian specialists to assist
them in building important oil
processing units os well as chemical plants.
In the ongoing quinquennium

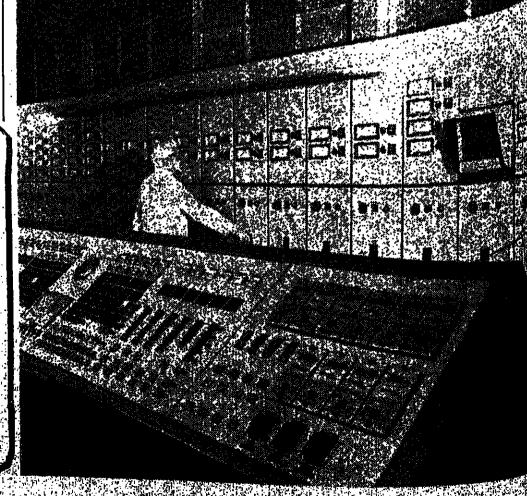
In the ongoing quinquennium (1986—1990) the country's overall industrial output is to grow by 34—37 per cent as against 1986, while the chemical indus-

iry will keore an increment of 50—54 per cent. At an annual average growth rate of 8.5—5 per cent. Larger increases are planned for the small tomage and fine synthesis chemistry (drugs, dyestolfs and colouring agents, reagents, highly pure substances for microelectronics, etc.), plant protection chemicals whose volume will almost double, in comparison with the achievements of the preceding quinquenalum. At the same time, the modernization drive sweep over 210 installations and 360 make technologies, as well as 670 products, thus helping raise the economic efficiency of the branch. The whole production growth fargetted for the ongoing five-year plan will be obtained by upgrading labour productivity. The overall experivolume of chemical and petrochomical goods will go up 1.7 times as compared to the proceeding quinquennium.

The growth rate planted for the current tive-year plan period is all the more so significant as the development success takes place in the contitions of stressing the pronective pussage from large basis chemistry to that of the Synthesis, of new and imposts changes as regards the organization of the chemical and perfectlemental industry on the branches, in the sense of increasing first of all the production the fields ensuring a billy empiricalization of ray matching the fields ensuring a billy white cutting back on the flux of energy-consuming products.

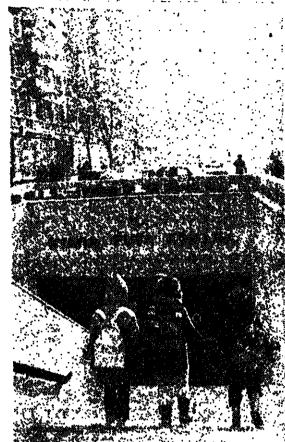
Pages by T. NITESCU II

Aspects from t Danubian Tyre Factory, Becki Che-mical Plant and the Ten-nical Rubber Hems Plant Jilaya,



ROMANIAN NEWS • ROMANIAN NEWS • ROMANIAN NEWS





UNDERGROUND STATIONS

Two stations have recently been opened along the second maintine of the Bucharest Underground: Plata Romand and Constantin Brincovenus.

The Plata Romand station was achieved through special technical subtions imposed by the need of ensuring a round-the-clock flow of the passengers where through the station is made through two escalators doubled by

tetually the 32nd in the under-ground system, has modern auto-mated installutions for traffic con-

Underground workers are working on the new station of the Victorial Square, along the third mululine, with which the Burharest underground will cover a total longth of 60 km.

THE M-5220 MONITOR | THE ROMANIAN LANGUAGE IN THE LATIN AREA

Falling in line with the medical apparatuses designed and built by the institute of scientific research and technological engineering for electronics, is the M-3220 bed monitor. The complex instrument is designed for medical units specialized in cardiovascular diseases: it monitors the cardiae and respiratory rhythm, temperature in four points simultaneously, diastolic and systelic pressures. At the same lime the device displays waves corresponding to blook gleat signals alphanumocleally, as well as the dimensions measured. Achieved with a microprocessor with a microprocessor this monitor allows for data is be processed at a computation unit.

THE ROMANIAN LANGUAGE IN The Presence of the study of t

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ing salah di Kabupatèn Salah Bangsat Pa

INDUSTRIAL PROCESS CONTROL

It has now become a usual practice to follow "Delicate" industrial processes by means of computer technology. The computer plant in Buchareat designed the SPOT 83 industrial process control system. It is presently used by the aluminium plant of Slatina in order to manage the electrolysis process, thus saving important quantities of electric power. The same system is fested by the integrated chemical plant of Rimnica Vilcea.

The SPOT 83 industrial process control system is also used for electric power consumption telegestion at the Bucharest Electronic Computers and the Zaläu Electric Network Enterprise as well as for non-destructive ultrasound control at IAVC and IPROMET in Bucharest.

The system achieved by the computer factory of Bucharest operates with good results also at Calders, in Colombia, where it is used for the control of generating sets at the Power Station, as well as in the GDR and the USSR.



協問問問言詞 HORBY ARCHIT

The Mining Equipment Enterprise in Sain Mare has started mass producing the M-130-type mechanized supporting installation, an equipment bensting superior technical and functional parameters accounting for a substantial growth in labour productivity. The exports of that enterprise have also built the technological line necessary for manufacturing the new equipment.

This year, the con-

This year, the constructive chart of several mining manual of the Otelul Rosu enterprise in Caras-Severing county has assimilated a new machine for supporting the Mockey of the Mockey



DÍMBOVITA RIVER THESE DAYS

Several events are being recorded these days on the site of the complex engineering of the river Dimbovita which crosses the Romanian capital, meant to impart a new geographic physiognomy to this Another important spot in the complexityer.

ine Romanian capital, meant to impari a new geographic physiognomy to this river.

For instance, the Vitan-Gilia section, on which work began last December, has been completed.

The new waste water collector canal has been built on a distance of 7.5 km, while the clean water basin, that is, the new concreted bed of the Dimbovita siready siretches on some seven km.

Adding to these important projects are he hydrotochnical structures at Sere and Popetti where assembly has begun. Sere is in fact the starting point for another is in fact the starting point for another section of the river having a length of 4.8 km. Both a new river bed (40 m wide and 3.5 m deep) and a cased sever have lead to be a second and put to use. An important project which will he will be seen continued in the river water and the starting point for another place where work is in a last in this point is included by decaying a real stage of comprision is the lake in ward stage of comprision is the lake in the vicer section of the river bed (40 m wide starting point of the river bed in the section of the river bed in the section of the river port of Glina. The wharf has been entirely created be the rule port of Glina. The wharf has been entirely created port of Glina. The wharf was been entirely created port of Glina. The wharf was been entirely created port of Glina. The wharf was been entirely created port of Glina. The wharf was been entirely created port of Glina. The wharf was been entirely created port of Glina. The wharf was been entirely created port of Glina. The section of the river beaution and has been entirely created port of Glina. The share the velopment of the rule reduction of the rule will be the rule reduction of the rule wharf the velopment of the rule reduction and the rule of Glina. The wharf the velopment of the rule reduction of the rule will be the taluar port of Glina. The will be the taluar port of Glina. The will be the taluar port of Glina. The will be velopment of the rule of Glina. The will be the taluar port of t

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coulpment and many others.

Covering some 400 ha (of which 120 ha reclaimed from the Black Sea, the Năvodorl and Corbit de Sus lakes), the integrated plant ranks among the largest and most updated in Bounaila. It is conceived according to a modern, compact design, directly linked with the Daunie-Black Sea Canal (especially through its branch Toarts Alba-Midla-Nāvodari), as well as with the Constants sea port.

Possessing 30 production and auxiliary units, the plant is a true creation of Romanian engineering and tochnology, it supplies the indignal economy with a varied range of theis, petrochemical raw materials of great importance for the home needs, as well as for export a polyshylene of high and low pressure (this varied line), polygropylene, as a

THE MIDIA — NAVODARI

PETROCHEMICAL WORKS

Besides the petrochemical works of Borzesii, Brazi, Tejenjan, Pitesti, Rimniou Vilcea and Timisoara a new and modern plant was connected to the productive circuit of Romanian petrochemistry a few years ago; that of Midia-

Navodari. After the first unit was commissioned and started to operate in 1979 — the installation of atmospherical and underpressure distillation, new and important units have been commissioned along the years? metaxylem isomerization, paraxylem separation, belated carbon-producing contemporary and report others.

equipment and many others.



ENTERPRISE

YOU CANNOT PRODUCE WELL UNLESS YOU CONTROL!

If, generally speaking, "man is the mea- (vity, competitiveness) that the Fine Mechasure of all things" as Protagoras put it, we must stress that the quality of your products and the productivity of your labour are strictly conditioned by the use of MEASURE-ING AND CONTROL APPARATUS.

The post- or in-process sizing of your products supplies you the information through which you can become EFFICIENT

nics Enterprise (IMF) of Bucharest has in mind when offering its beneficiaries:

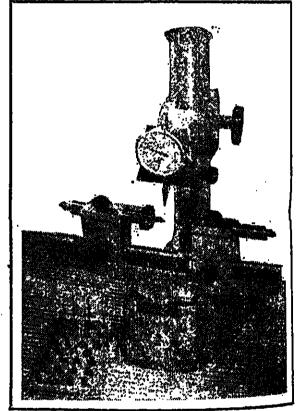
- measuring and control apparatus for lengths, pressures, temperatures, discharges, times and speeds:

- special tools (diamond and sinter-carbide metal tools), holders, high-accuracy and fineness devices and dies, having a It is this efficiency (viz. quality, producti- | high degree of productivity and durability.



MEASURING AND DIMENSIONAL CONTROL APPARATUS AND INSTRUMENTS dial gauges ● bore dial gauges ● gear measuring instruments; ● threaded conic gauges for the oil

circular dial snap gauges • gear pitch-error and gear-tooth-thickness measuring instruments reading ball-gauges; optical read-out de-



IN- AND **POST-PROCESS** SIZING GAUGES

They are built according to modern principles, with pneumatic inductive, piezoeletric transducers, whose signare processed and displayed analogically or numerically in modular-type elec-

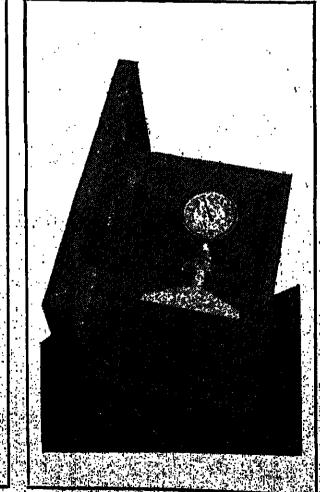
pneumatic post-process sizing gauge

— SUPERJET • pneumo-electric postprocess sizing gauge — ELSUPERJET

• post-process sizing gauge with electric contacts • inductive electronic post-process sizing gauge O roughness measuring post-process sizing gauge; smoothness measuring gauge (electronic levels).

in-process sizing gauge for continuous exterior cylinder surfaces with

one and two measuring points • for continuous exterior surfaces and for continuous interior cylinder surfaces with two measuring points • in-process sizing gauge for centreless grinding machines • in-process sizing gauge for exterior diametres of narrow surfaces • dopying systems mounted on machine tools for processing through copying after a pattern.



AUTOMATION ELEMENTS AND MECHANISMS

Programmers electromechanical impulse counters programme control for automatic washing machines discharge counters with oval wheels electromechanical transcharges and the second tromechanical tachographs for motorvehic les complex speed measuring installations for locomotives and subways.

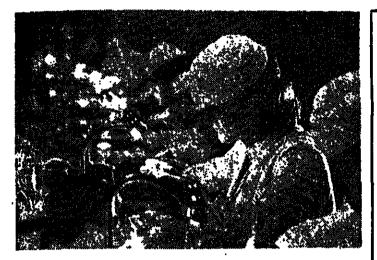
FOR PRESSURE INDUSTRIAL CLOCK-TYPE APPARATUS, INSTALLATIONS AND TEMPERATURE CONTROL

This apparatus family includes pressure switches and thermostats. They are indispensable in the automation of starting and stopping installations using fluids whose temperature and pressure must be maintained within certain preadjusted limits. Pressure switches and thermostats are made of the Eine Mechanics Enterprise in a wide variety according to the freezers and types of motors, they are mounted an and the candillors of the environment.





IMF TRADEMARK



SINTER-CARBIDE **METAL PRODUCTS**

The main groups of products bearing the "CARME-SIN" mark — which are the object of the Bucharest Fine Mechanics Enterprise's production programme — are the following: sinter-carbide metal brazable tips and inserts for metal cutting; sinter-carbide metal inserts for mining tools; sinter-carbide metal inserts specific to the wood industry, building materials and extraction industry; products for drilling installations; dies for screws and nuts; dies for roll bearings; other types of products upon the foreign partners' demand.

According to the concrete destination indicated by the end user, these products are executed out of the PKMG groups of carbide metal powder, after ISO international standards or according to other requirements specified in the order.

specified in the order.

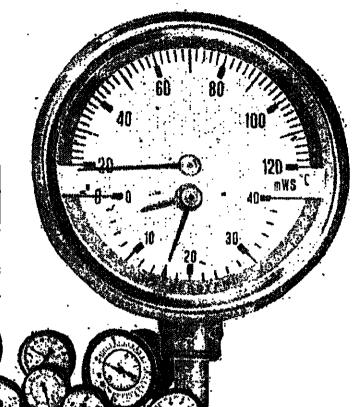
In order to increase the durability and performances of the sinter-carbide metal inserts, the method is applied of coating them with extra-hard layers of titanium carbide, giving the inserts an increased durability of up to 300 percent, as compared to the normal execution.



PRESSURE GAUGES

Through the great diversity resulting from constructive variants based on measuring limits, accuracy, diameter, connection and scale type, the Fine Mechanics Enterprise can satisfy the most exigent demands of its clients (standard pressure gauges or of special construction, upon demand). There are: • general use industrial manometers 🛭 vibration-proof manometers • corrosion-proof manometers capsule-manometers •

double indication manometers • manometers-thermome-



DIAMOND TOOLS

The processing of ferrous and non-ferrous metals, of sinter-carbide metal, stone, con-

metals, of sinter-carbide metal, stone, concrete, ceramic and glass — through modern methods — calls for the use of diamond tools on an ever larger scale.

The manufacturing programme of this kind of tools is achieved at IMF on the basis of the licence purchased from WINTER firm of West Germany and is currently in full swing as a result of the growing demand. It comprises the following more important groups:

tant groups:

— diamond mills with metallic or resi-

nuous binder of various shapes and sizes, with cubic boron nitride.

- diamond tools for construction-material processing

— diamond tools with galvanic binder

— honing diamond blades

- diamond pastes - diamond tools for trimming and shap-

ing abrasive stones - chambering tools with extra-hard materials from diamond polycrystals or cubic boron nitride

- diamond drawing dies.

AND THE EXACT TIME

WHICH YOU CAN LEARN AT ANY MOMENT BY LOOKING AT THE DIAL OF THE WATCH WHOSE TRADEMARK OREX IS A GUARANTEE OF ACCURACY. BUILT IN SEVERAL HUNDRED MODELS BY IMF, THE WATCHES - MECHANIC OR QUARTZ-BASED ANALOG - MEET THE FINENESS OF YOUR AESTHETIC TASTE AND GIVE YOU THE EXACT TIME.

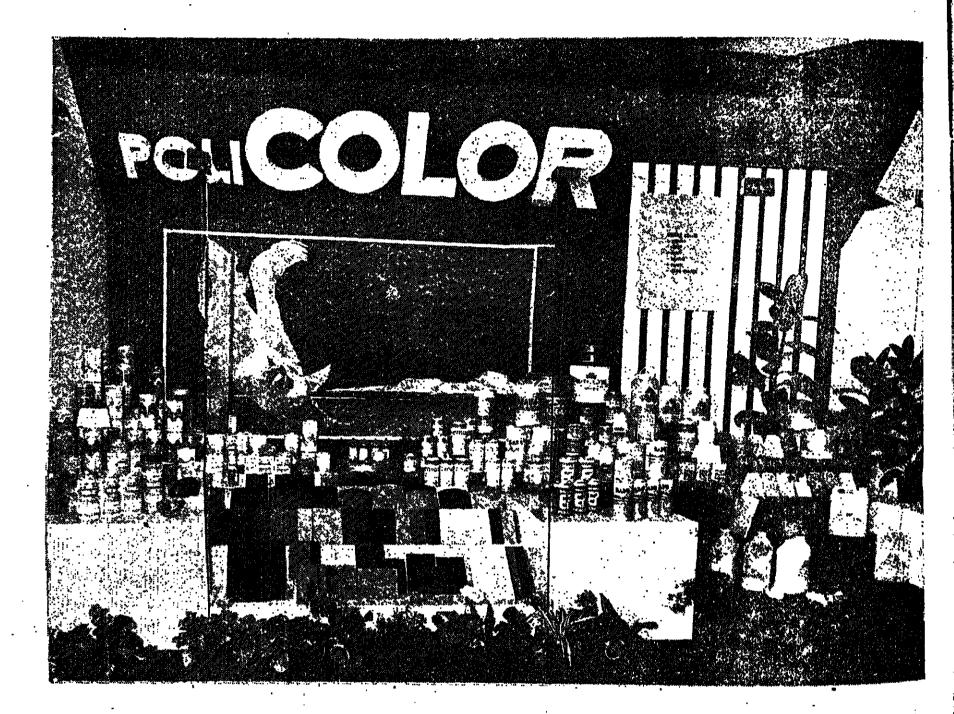


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CHIMICA IN THE WORLD



ICE Chimica's export list covers over 170 groups of fertilizer, complex fertilizer (nitrogenous, phosphatic

This wide range of chemical products are marketed through economic relations with more than 100 commercial firms in 71 countries.

The products exported by ICE Chimica are remarknuity in the foreign markets. ICE Chimica, which is one of the world's top exporters of fertilizers, and holds an important place in the exports of medicines, cosmetics, varnishes and dyes, paper, cardboard and items made of them, has become a familiar presence In international trade.

Among the products which are in great demand in the foreign markets we are mentioning initrogenous

potassic), writing, printing and newsprint paper, wrapping paper, various paper and cardboard items. original and traditional drugs, cosmetics, varnishes and dyes, dyestuffs and other products.

ICE Chimica is a partner of three joint trade com panies: AMROCHEM - USA, ROMITAL - Italy, TICHEMIE - West Germany, which also contribute to the marketing of the enterprise's products,

Moreover, our enterprise offers merchandise to other joint companies with Romanian membership such as ARCODE — England, DECOFRA — France, VICTORIA REIFEN - West Germany, TERHELLAS - Greech SOMAROMIMPEX - Morocco.

For additional information please apply to

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THE HYDRAULIC EQUIPMENT ENTERPRISE RÍMNICU VÍLCEA O ROMANIA

■ ELECTROHYDRAULIC SERVOVALVES

- DIRECTIONAL CONTROL HYDRAULIC EQUIPMENT
- directional valves
- controllers regulating valves
- needle valves
- HYDRAULIC EQUIPMENT FOR CLAMPING SEMIFINISH-ED PRODUCTS ON MACHINE TOOLS:
- swing clamps
- minor cylinders - collet chucks
- high pressure hand pumps
- pumping systems
- FILTER EQUIPMENT:
- suction filters
- pressure filters
- return filters
- PNEUMOHYDRAULIC ACCUMULATORS AND ACCESSORIES
- HYDRAULIC CYLINDERS
- HYDRAULIC PUMPS
- LUBRICATING EQUIPMENT
- progressive lubricators
 volume lubricators
 oil lubricating devices
- grease lubricating devices
- two-way lubricators two-way lubricating devices
- resistances
- injectors - safety and non-return valves

VARIOUS HYDRAULIC EQUIPMENT

The Hydraulic Equipment Enterprise in Rimnicu Vilcea offers technical assistance for the products ordered, upon request. Moreover, it can design new products, in keeping with the





Marketing Romanian electronic products and services as well as economic cooperation in the field of the electronic industry are carried out by the ELECTRONUM foreign trade enterprise.

ICE ELECTRONUM'S export programme includes the following lines of products:

- Telecommunication apparatuses and equipment, servicing included, starting from design up to training and maintenance. From this line of products mention should be made of: telephones, urban, interurban, international and institutional automated telephone exchanges. Exports of such products to Greece, the USSR, Czechoslovakia and the GDR have become a traditional practice.

- Measuring and control apparatuses, of which ampermetres, voltmetres, wattmetres, electric metres, flow-metres, steam-flow metres, logometres are delivered to Poland, Syria, Iraq, Pakistan, Sudan, the GDR and Czechoslovakia.

- Automation elements, equipment and installations for all the economic and social sectors.

We shall enumerate some subgroups of products: field and panel automation equipment, distribution and control electrical equipment, automated equipment and systems controlling technological processes in all economic branches, transmission and data processing equipment, teletransmission and data processing equipment, machine tools, control equipment automated testing equipment.

Also on offer are personal installations and equipment as well as turn-key deliveries, incress ing are the deliveries to countries such as the USSR, Egypt, the GDR, Czechoslovakia, Iron. Iraq, Bulgaria.

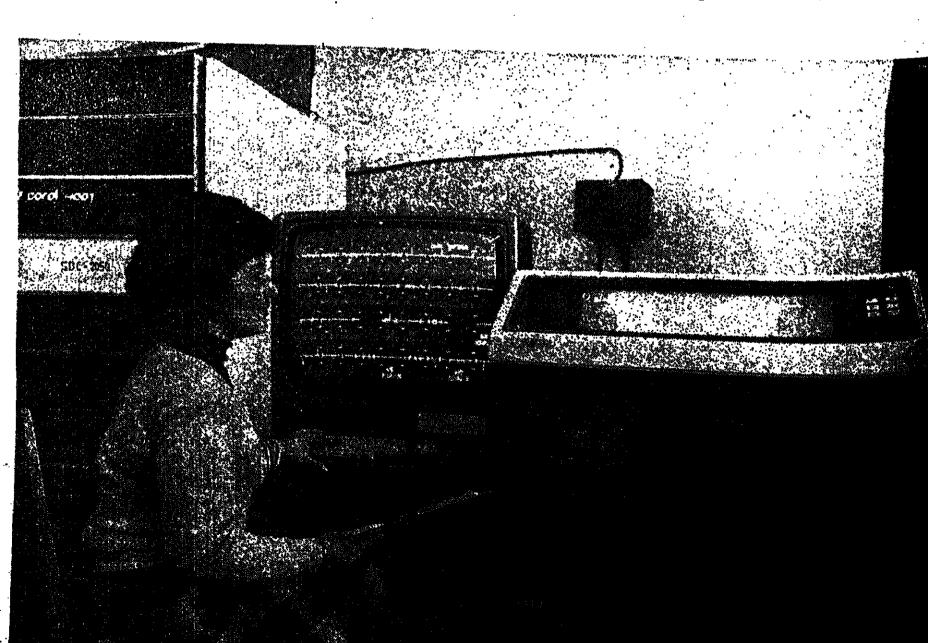
- Computer technology equipment such as medium-capacity computers, minicamputers, minicampu crocomputers, personal computers, graphical systems, invoicing and bookkeeping machines, peripheral equipment. These products are exported to People's China, Czechoslovakia, the USSR, the GDR, Switzerland, Austria, West Germany, the USA.

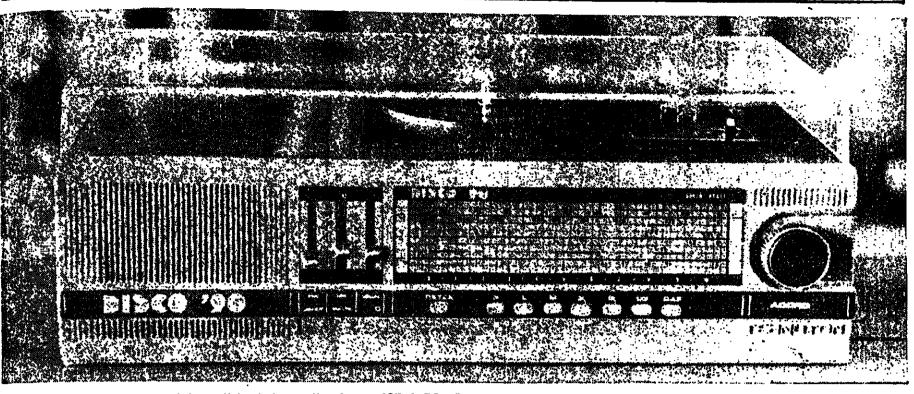
The electronic components cover a wide range of diodes, transistors, integrated circuits, resistors, condensers, etc and are exported to Bulgaria, Czechoslovakia, the GDR, Poland, France, Italy, the United States etc.

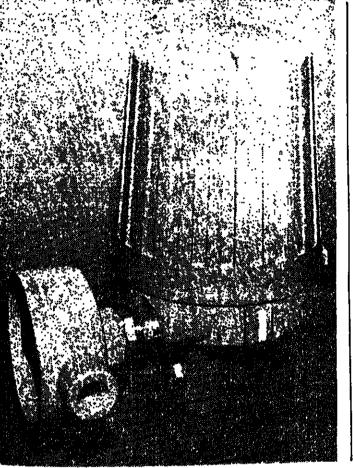
Consumer goods such as radio receivers, radio cassette recorders and ty sets. These products are exported to countries such as West German, Britain, the Netherlands, Czechoslovakia, the GDR, the United States.

Also taking place through ICE ELECTRONUM aret he export of licences and knowhow, the granting of technical assistance and software.









ports a series of equipment, apparatuses, electronic components and various materials for the electronic industry and audio-video consumer goods.

An important partner in the export and import conducted by ICE ELECTRO-NUM is the Soviet Union.

ICE ELECTRONUM -**Bucharest** collaborates with the Soviet enterprises V/O **ELECTRONORGTEHNICA**, V/O STANKOIMPORT, V/O MASHPRIBORINTORG, V/ O TECHMASHEXPORT. ENERGOMASHEXPORT, V/

O TEHNOINTORG, V/O Supplied to the USSR are adjustable drives for machine tools, automatic telephone exchanges, computer technology, while that country exports to Romania electronic compodustry, computer technology and audio-video consumer goods.

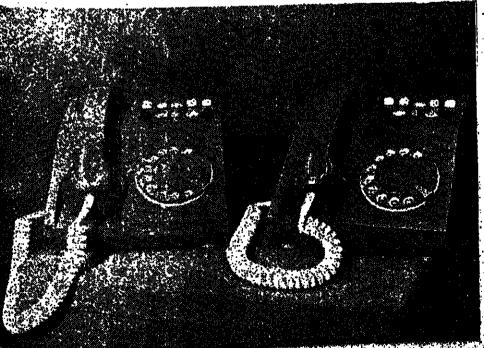
The collaboration with the Soviet foreign trade enterprises also accounts for the cooperation in production, that is Soviet electronic components are used in manufacturing electrical drives, computer technology equipment and automated telephone exchanges to be delivered to the USSR. At the same time very important is the ob-

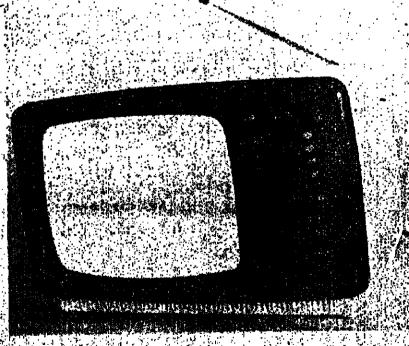
servance of all delivery dates, especially as concerns the electronic components which are vital to the rhythmical realization of the equipment production plan.

According to annual mutual exchange protocol stipulations, the volume of the exchanges between **ELECTRONUM** and the Soviet foreign trade enterprises is set to grow every

For further information please contact our specia-







ELECTRONUM FOREIGN TRADE COMPANY BUCHAREST O ROMANIA

28-30 GH. MAGHERU BOULEVARD . TELEX 11547, 11548. PHONE 137081

MINOLTA's philosophy is to view copiers and the technical assistance granted to end users as a whole. It is easy to expect the most of the inventiveness or the products of a big producer, but the fact that a customer takes it for granted that he benefits by the best technical assistance means much more to MINOLTA. This is the reason why copiers, laser printers, telefax and text systems come ever more frequently from MINOLTA.

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THE CONTEST OF STUDENTS-CREATORS

Between December 8 and 10, Bucharest University plays host to the malional stage of the National Confest of Sudent Scientific and Technical Creation.

Less than a month after the conclusion of this year's National Conference of Sudents' Scientific Circles, Romanian is higher education creators selected through competitions organized by university centres are now gathered in Brasov. The 26 sections discussing the works are as many research guildelines pursued by the National Council for Science and Technology. For example, here are some of these sections; the development of the energy and raw materials hose; materials for the electronics and erablished a Grand Pitx, another prize for applicability, one for interdisciplinary, approaches and an award for tundamental research.

Besides these distinctions, each section will award a prize for the most voluble a few other sourced award.

THE FAIR OF

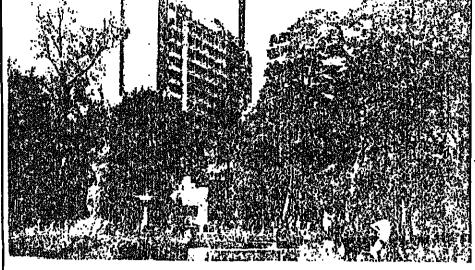
TOMORROW'S MASTERS

Young Romanian specialists took part in the 3tst
central exhibit of the Fair
of Iomorrow's Musters, organized at Leipzig (the
table). They won 10 distinctions which rewarded the
results of researches made
in high-tech fields—computer technology, information processing tlexible systems, aptical-medical, andlo
equipment, chemistry etc.
Rusandra Toma, in charge
of the technico-selent Tre depariment at the Central

of the technico-selent fre do-pariment at the Central committee of the Union of Communist Youth supplied as with the above-mention-ed information, adding that the year's edition of the lair gained for the first time as international scope, com-mishing young researchers.

lators and robots; micromechanics; blotechnology; bluengineering; programme designing; non-conventional gramme designing; non-conventional generalized; ecosystems and onviron ment protection.

Heritage these distinctions, each section will award a prize for the most valuable paper, white a few other special award, are bestowed by governmental economic departments.



THE CARPATHIANS IN WINTER

IN WINTER

All the Romantan mountains have already heen rayered with a thick layer of snow (see photo below). Winter sports have come had their own, Mountain resorts have fone prenared to receive their gases, throng the white season, Hotels and restaurants have been updated, ski and sledge turns rearranged and skaling rinks envered by a fresh layer of lee. Cabba transport systems already unerate to the full, Even this snoe, b. Stiff Bernard, photo left is ready to help out. However, we hope it will be on' at work?

THE CLINIC OF BĂHLE FELIX

Same of one readers are acqualited with the name of Balle Fells. The balmed spa (nears the city of Oradea), removing to the Reporterinal waters, is constantly hospitable both for Romanian patients and for injety tourists who come to the Belvedere. Natural and Lotus butels every year for a balmed sujourn.

The latest constructions raised at Relie Fells include a recovery hospital, with a clinic of E55 bods whichis soon to become a base of medical assistance and scientific research of the Institute of Medicine and Photomary in Buckarest, respectively of the Denartment of Physical Medicine, Balmenellandology and Medical Recovery, Like in any other university clinic, stindents will learn bere the secrets of the treatment of rheumatic diseases and affections of the across system, the laboratory of research into natural therapeutic factors candeding this practical form of chiration. At the same time the new clinic serves as a centre for incurring the processional skills of balmeningists.

Page willies by a L. CONSTANTIN, M. RAWLESGEL, G. FLORGA, V. COSTUA, F. MIRAL, M. CONSTANTI-NUSCU, G. OSTROVLANU, Phops by AGERBRES.

pising young researchers of 11 countries. TUNNEL GEOMETRY

The institute of railroad designs in Bueharest came up with
a new method measuring
the geometry of railroad
tomack allowing of their
execution in conditions of
ligh accuracy, with substanlial reductions of material
rependiture and manual laloue.

RACE END

Six var contests marked the engoing national speed contest season. They were organized in the following urder: at Galati, Buzzu, Resjia, Raia Mare, and Oradea, The last one, held at Satu Mare, was actually the "linish line "of the 1988 season.

The undisputed fenders of this year are Nico Grigoray and Victor Nicoara (both of them driving Dacia cats representing the Pitesti Car Making Plant) who fulled unbenten all the six races of the competition in the first two groups. The top place in the teams standing went to the team of the Dacia Pitest car making enterprise.

The minth county solon of scientific and technical crea-tion, Napotchnica 38 was uponed at Clui-Napoca Art Moccum.

Populitive and minutal labor.

Based on computer-aided photogrammetry, presently opplied on the construction of the Bucharest Undertound, the method was pricated at the International Congress of Photogrammetry and Teledetection. Treatly held in Jupan and lives highly appreciated for the originality of the idea, as well as for listerhaled and economic performance.



A NEW RAILWAY

Work bay started the active on a new railway which will link the town of Berlan in La Lounzi commune, a inture milan commune, in Batestul county. The new project will be built by the Enterprise No. I of the last Regional Railway Management, it will cover 28 km, with stations at Delent and Raileat, the railway will run through a nearly 900-metre tunnel. The investment hielands the modernization of the Birlan station and the holibing of a new violon at Planing.

The workers of the Brassey Tunnel and Railway Construction Laterprise will also help commune the new construction theorem as will also belo counted the new vallers which will contribute to the conjugation of the confidence of the localities in the region and the increase of passenger and goods traffic.

WELDING WITHOUT ELECTRODES

nes so far designed for the above-mentioned tech tology) and the soldering is ready. Noteworthy is that the pre-

Noteworthy is that I've negative that the two parts should have either the same diameter on their contact surface or a limited length.

The friction welding devices solders different kinds of material which could have never been processed by conventional methods: altaminium with sieel, materials with many alloyed cloments and even glass.

From among the performances of the machice meation should be made that the welding time is shorter (2-3 wilds per minute). Besides, it is recommended for ingo-series production and low energy consumption (some 1 kw for a welding).

SPORTS

Victoria Buch rest the Finish (allback Helk-have clawed their way into the quarter-final stage of the UEFA Cup being the managed to notch in the third Romanian squad to notch in the 37th, 51st, and... 95th minute (the Dutch referee Thomas protonged the gistered as far by Romanian soccer in these three yellow cards to the competitions.

Palloseura Turku 1-0 clan). in the first leg Victoria nost (note away match
3-2. Their two away
goals carn them a welldescrived win. Victoria the Scout Games, has lost their away mutch unexpected bely from deration.

game enjostifiably. E-Romanian players, most mere 1-0 against Turan probably to temper their

actually led 2-0 at one been rated first in the stage through Solomon world's top of the best (in the 16th and 18th mi- | woman gymnasts in 1938, nuies, the latter with an by the informational fe-



Classic welding electrodes are soon to become museum exhibits. At least this is the opinion of the interdiscipit-mary collective of the Institute of Welding and Material Testing of Timisoara (Timis county) and the Metalilo Construction Enterprise of Bac.'s (Caras-Severin county). The furmer in their capacity as designers and the latter as producers have

• ROMANIAN

Răcari commune lies in the southern part of Dimbovita county. It comprises five villages : Ghergani, Răcari, Mavrodin, Colacu and Ghimpati. Princely chancellory documents attest the existence of these localities as early as the 16th century. In the following century, the settlement was recorded as a commercial centre exerting a powerful influence on the economic life of the surrounding villages. There followed a long period of stagnation spanning nearly two centuries. Over the last few years however, the economic life of Răcari commune has seen an ever faster development pace. Farming activities have been updated and diversified. The average har-

vests of cereals and technical crops have grown considerably, both following the cultivation of new strakis and hybrids and the modernization of farming technologies. Important land melioration and irrigation works have been conducted. Industrial activities — especially on a small scale - have flouri-





Near-future town planning forecasts and programmes indisocial thriving of Reari com-mine. What grounds justify the assumption that particularly this locality will polarize the this locality will polarize the inhabitants' economic and so-cial interests? I approached this subject while discussing matters with Joita Necula, the woman who over the last six years proved a tireless mayoress of Rácari in her altempt to develop her native village.

develop her native village.

"Seen from the inside, the modernization drive is not a routine administrative event but first of all a collective state of mind. It works like an electric transformer which raises the tension of social, comomic and cultural life. However, I want to appetly that it is not just a transient fever: this process started a long time ago. ticed as early as 1968, in the wake of the new territorial and wake of the new territorial and administrative division. That homent was a real springloard for us, channelling development-related investment funds more naturally and, why not, more democratically. Over the last two decades Ricari commune's economic strength has multiplied spropal times. But the hade ed several times. But the basic activity has always been agri-culture. Even our local industries have been specializing in processing the farm output. Because here we are in a plain area, probably the most fertile in the whole county. The ucople llying on the sub-Carpathian pinioau regard us as an exclusively farming area. And they are right because amountly some 4,000 ha are cultivated with maize and wheat inside the frontiers of Ricari communic At the same time we are a kind of vegetable basin for the two. million inhabitants of Bucharest which happens to ite only 35 km away from bere.

tures of our village III in per-fectly with this situation. For instance the main production instance the main production units are two cooperative producer farms — CAl Răcari and CAP Colacu, an inter-cooperative association growing and inticuing young rams, handling 20,000 heads annually, an agricultural mechanization centre with 250 tractors, 40 solf-pro-

Mary Ser

pelled combine harvesters and pelled combine harvesters and a whole network of farming machines. On the other hand, out of the 8,700 inhabitants of the commune 8,530 live in new dwellings of their own, with orchards or vegetable gardens, also growing chickens, pigs, cattle and sheep".

"Can you enlist some of the factors which have favoured Racarl commune against the

other villages in the area?"
"First of all our territorial position. Surveying the network of localities and delimiting the started a long time ago, As is: as I am concerned, I can only regret that a mayor's madue and even a lifetime are too short in comparison with such a captivating and yet very loat spheres of influence of each town, it is easy to notice that the lines of magnetic force of the nearest town, namely Titu, do not cover a large and dense-

age is that historical tradition was not ignored either when the decision was taken to stimulate the expansion of urban eivilization landmarks.

Therefore, you see, Ratearl does not plan to assume the status of a city overnight. It simply carries on a process

Jolfa Necula - the mayor of Ratari commune at work (top left). Another child in born at the commune's mater-

nity (top right). Snopshot at the Agreladu drial High School

(middle). A common activity at the Intercooperatist Econo-

mle Association for Sheep Breeding, (bottom)

a captivating and yet very long social process."

"Can you specify some elements of urban civilization and mention a few planned to be created in the agroindustrial centre of Rúcarl ?"

"Personally, I don't think there is such a thing called the inferior limit from which urban life can be consider to crobe and further more I doubt very much the existence of a sufficient communic, housing or eletural ceiling which a villate cannot overcome. Here, at Rigerian the nearest town, namely Titu, do not cover a large and densely populated area. Consequently what we need here is an urban centre able to polarize the individual and collective interests of 30,000 people. Ravarl commune is much better located time the nearby villages. Besides, it has access to railroad and motor ways. On the other hand the commune's economic power—economic units providing plenty of Johs—as well as establishments of an interest which exceeds the village bounds, such as a hospital, a maternity, a high school, the railway station and others are presently functioning as a local magnetic force. After all, even in 1763 our locality was regarded as a small trading place. The reason why I bring into discussion a document issued two centuries ago is that historical tradition was not ignored either when cannot overcome, Here, at Ri-carl, our rural status has not carl, our rural status as no prevent us, so far, from fate-ducing running water in declings, laying out a newerage system with a water freatment is attempted the care of the

Obviously, the existence of industrial enterprises and therefore of non-farming jobs his collarged the socio-professional tracket of many people. But are horizon of many people. Rula the illers and animal breek the tillers and animal bresters the tillers and animal bresters till thinking or working like the past generations? Defisitely not. They posses solid knowledges of agrochemistry, physicientology, 200tochny, natrilos, mechanics, to say nothing of their general level of knowledge. We have a high school laiving farming staff — mechanic engineers, animal braceder, vegetable growers. From the total share of the community guinfully employed population (some 4,000 inhabitants) most than a half are engaged agriculture. The main industrial unit — a sugar factory is also related to the field production. The other units against the field production. The other units against the mann industry capital traction. The other units against the mann industry capital traction and industry capital traction. The other units against the mann industry capital traction and industry capital tractions against the community capital traction. duction. The other transfer chilalize in small industry chilalizing on local resources, such a workshops of ester paskets workshops of ester paskets with Silvie Contre and in granific conservation dear-

the Silvic Contre and destriction on the conservation destriction of the conservation destriction of the prospect of earmarking in the prospect of earmarking in the prospect of earmarking in the parameter of earmarking in the parameter of earmarking within the sugar factory and possibly seare amonities added to the greater are being built for small fine are a bit greater we also for the civil said for the civil said house of culture with the small fine and high school build be shown to be shown to be spand by the small for the civil said house of culture with the small by park. Sure, we dream of many life when the projects but is should be silve to what he will be shown the faithful took faither out.

Archeologist G. Diaconu, D. Hist., relying on proofs offered by the latest discoveries or from the analysis of all researches carried out until now, drew valuable conclusions giving a new outlook to investigations in the respective field.

Starting from certain dating elements established, based on the inventory of graves from Sopteriu-Bistrita-Nāsaud, showing that the groups of Carpipenetrated west of the Carpathians in the last deender of the third ecutury, the archaeologist

events as well as the solution of less known elements of Romanian ancient history. In this category is included for example, the presence of the tribes of free Dacians (Carpi) on the territory of Roman Dacia.

The existence of the Carpi in the inter-Carpathian arch is attested, among other things, by an inscription from Apulum (Alba Iulia) on an altar built by C. Valerius Serapio, Objects plonging to the Carpi — among by C. Valerius Scrapio, Objects
belonging to the Carpi — among
which a mirror with magical
signs, were found at SebesAlba, Mercyti-Harghita, Cristian-Brasny, Sopora de CimpleCtuj, Obreja-Alba, Medias, etc.
Archaeologist G. Diarona, D.
As Imagical manufact incl. An important number of incl-Daclaus south of the Carpathi

Most of the latest archaran-gleal diggings contribute to the solution of problems concerning the exact dating of certain events as well as the solution

archaeologist G. Marinescu, Ri Sopteriu-Bistrita-Nasaud belou-

thians in the last decades of the third century, the archaeologist linked other elements leading to an identical dating. These elements were combs with semicircular handle, made of stag horn, with plates assembled by means of rivets. These types of combs were also found in the late tree Dacian environment as well as in that of free Dacians south of the Carpathi-

ans in the final stage of the respective culture, next to other elements revealing allogeneous vestigox which penetrated at a certain period the native environment south and east of the Carpathians" showed the archaelogist. Other elements are represented by a circular mirror, lapis lazull beads found by archaelogists in the centre of the province Dacia, which ware chylously brought by the Carpl toward the end of the 3rd century AD.

"In the current stage of researches", concludes archaeologist Gh. Diaconu, "three working hypotheses could be advanced concerning the presence of ans in the final stage of

no de concerning the presence of the Carpi in the territory of Roman Dacks. First or all, in the light of the finds of Sopteriu-Bistrita, we have to agree with G. Marinescu that at the end of the 2nd century



The terrace with Nen-Neotl-this habitation vestiges — Chelle Turenilor, Fire hearths, levels two and three (above). Roman coins from (above). Roman coins from the Apabida board — over 1,100 pieces (left). Cluj Napoea — northern area — Chistent, Villa Rustlea (middle). Cluj-Napoea. General view on the Roman and late Roman cemetery and a late Roman grave — fourth century AD (bottom, left).



groups of free Dacians settled west of the Carpataians with their feulitonal undered and cultural culture, reachilling that cultural culture, reacable of their native land, Secondly, we may pressure that at a certain moment during the second half of the hal century A.D. groups of Carpi settled themselves in the living hearths of the Daco-Roman population, influencing one another culturally and spiritually, as part and partect of the process of symbiosis accurring between the two related peoples. Apparently, such situations are east into both testled peoples. Apparently, such situations are east into both testled by the discussed made at Supora de Cimpie (Chall county) and Obreja (Alba county). Finally, the third type of antiquities, such as the mirror of Schey-Alba, the backet-like meritails, as well as albees which have not been mearthed yells on closed areas, can be considered allen from the Daco-Roman environment, but most probably they were used by the Carpi during their rabbs moon the province through the 3rd century A.D."

century A.O."

Taking such considerations as a basis, the archaeology is of Bucharest convolutes that the written sources referring to events occurring between 215 and 217 can be connected with the Carphatian Dacia and Roman Oltenia. While the firm settlement of the free Duchas in the province must have taken alarce after the cube of Emments Gallienus and Aurelian. These historical facis show that Duchaeolid have never remained a wasteland. It was continuously inhabited by natives, by Gelo-Dacians and Dace-Romans.

GH, BRATESCU I



NEW FINDS

farm made up of a main building and several amenities. The farm covers approximately 3.5 ha, lining up a Roman military road between Potalesa (today Turda) — the headquarters of the fifth legion called Maccdonien — and the castrum of Tindu, near the ancient city of Parollssum: According to Cluj-Napoca apecialists, the farm had been raised over Dacian dwellings dating back to the last 1st century A.D. The first discoveries highlighted traces of material life — potiety, tools, payings, fire hearths, colleges — located round the farm, proofs of the Daco-Roman continuity and symblosis. Given the importance of the discovery, an archaeological pask will be laid out here with a view to entarging and decreping specialized juvestigations.

entarging and decreptus specialized investigations.

During the archadological campaign carried, out in Sugara county rescarcing have continued into the medieval past of the urban settlements of Succava and Sirel Afforday, on the alle of the former Princety Court, archaeologists identified a civilian construction indicating the size of the princety residence used in the interval stretching between the reign of Alexander the Good and that of Siephen the Great, while at Sirbt they found two Morksbans with a right inventers of tools, only child ceiling for stage of development of earlies between the 15th and the 16th century. At the same time new research areas have been at proached degreening the period of cuergence

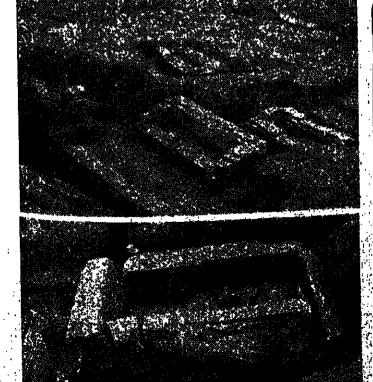
On the Tulgies Rill, in the northern area of Ciuj-Napoca municipality archaeologists uncarthed traces of a Roman made up of a main building and several medis) point to the couldnut of the native nogulation within this space, after the Romans had left Dacia (the 4th and 7th centuries). At the same time the first investigations were made into Golo-Dacian settlements discovered at Besanci, Presiestl and Dolhasca.

made into Goio-Dacian settlements discovered at Regard, Trancesti and Dofinaca.

After the experiment and experimentization of data collected so far, the archaeologists will make public their conclusions in the 18th volume of the Yearbook of the Buceava county Museum.

Archaeological researches made at Molnesti (Bacava county) and its surroundings came up with valuable vestiges speaking about the retunic past of that area, The finds are prosented to the public by means of a permanent exhibition. Tools, vessels, ceramic tragments, organical, noischold objects, brought out on the occasion of disginus, made at fine gettlement of Poduct, attest to the presence of the Recilibite, culture and elylization (Pre-Culture and cuchtent), covering a period of almost, two thousand years, it is the first settlement of its kind over found on Moldava's territory. Pride of place is given in the recent discovering museums of Bacau and Platra Resmi inside the Dacian for ress of fininest. They are from tools, addraments, household objects and pottery.

n, veres m 1. Beldeanu m



The large screens of the Capital have recently seen the premiere of Muzica e viata mes (Music Is My Life). The movie-goers' lu-Life). The movie-goers' luterest in the film is increased by the presence in the cast of two famous names: script writer and film director Iulian Minu (an innovator of the film language in Romanian cinemalography during the 1960s) and the popular pop singer Gied Petroscu. The artist's longevity is explained by his constant and unconditional love of music, by his professional integrity and case (the result of a uninterrupted work) with which the singer has approached all the "species" approached all the "species" of this difficult genre (from



The new series of concerts at Tirgu Mures will include several premieres. Among them will be the Sixth Symphony by Serban Nichifor, dedicated to the Romanian Athenaeum's centennial, the orchestral place Ofranda tinerctii (An Offering to Youth) by Alexandru Paseanu, the cantral of Muniii Carpati (Carpathian Mountains) Symphony by Dan Buelu, the Symphony for Strings and Organ by Wilhelm Berger, Other works are signed by George Draga, Theoder Grigoriu and Adrian Jorgulescu. Many other pleecs by young composers will be presented at the Tirgu Mures Philharmonic.



Tirgu Mures Philharmonic.

Every month the hall of the Romanian Athenaeum in Bucharest gets crammed to capacity and is still too small to admit an audience of all ages, eager to attend one of the sui generis events and concerts — of the "Convergence of Arts" cycle, organized by the George Enescuphilharmonic over the last five years. The initiator of this cycle, Cristina Vasiliu, a Romanian and French teacher with the Economic High School No 2 in Bucharest, has had an inclination in present — first during her studentiship years — themes lackling the bistory of culture, combining elements of literature, music and fine arts periaining to the respective themes. Later on, her proposal to the George Enescuphilharmonic to stage such events in the hall of the Romanian Athenaeum received a favourable answer.

What are these concertions.

wer.
What are these concertshows about? After Cristina shows about? After Cristina Vasiliu's introductory exposition, the audience watches a two-and-a-bail-up to threehour-long presentation of
colour slides illustrating
fine arts and architectural
works, accompanied by the
lecturer's explanations, reciatwo-anni-a-balf-lip to tree-hour-long presentation of colour slides litustrating fine aris and architectural ber the Constanta-based Fantasio classic and modern ballet of the constantal sand constants of the most important cities of West Germany, the Nei-berlands and West Berlin. The reperiod by artists on stage or played as recordings through the hall speakers, all of them referring to the thome of the day, on the basis of a scenario conceived for every them by Cristina Vasilu. Throughout these five years the organizors have presented 20 themes, most of them repeated several times (sothe organizers have present—one.

The remarkable perfor—rest and Cluj-N repeated several times (sometimes even eight performances) in order to meet the
public's demands. Consequently; May 1988 saw the
100th concert-show of the
eyele. Here are the titles of
the 20 themes: "Faust. A
Here of Knowledge", "Michelangele Buenarcetti", "Dante Alighter!", "Rome and
Barcque Ari", "Vonice, the
Eternal City of the Aris",
"Spain in the Golden Century", "Hamlet, A Romalsance Humanist", "Leonatdo's
Century", "Lyrical Vocations
of Russian Ari", "Oriental
Art and its Echoes in European Culture" (will'separate papers on China. Japan,
Porial, Abeliant Egypt) "Paris in the Romanité Age",



More than just a hobby — in its ourrent acceptation — the passion of public health servants for photography is expressed in the existence of the doctors' Photoclub affillated with the Association of Romanian Photographic Artists and, respectively, to the International Federation of Photographic Art. Many Romanian doctors currently take part in national and international confrontations of the genre, frequently confirming their artistic value.

Bucharest hosted recently the varuishing of the 18th Biennial of the Doctors' Photographic Art, gathering participants from 21 counties of the country, who exhibited 156 black-and-white and coloured photographs, as well as 160 slides. In keeping with the 40-year-long tradition the jury of the Biennial awarded prizes for the most successful works.

More than just a hobby - in its





Consistent with its profile, the Co-medy Theatre in Bucharest au-nounces a future premiere — Geor-gds Feydeau's The Thistle, Like the other comedies by Feydeau The Thistle is a well written typi-nal farce.

mances of the ensemble, invited to take part in important cultural and artistic events staged both here and abroad, are closely related to the personality of master Oleg Danovsky, a highly appropriated.

preciated professional cho-

meny incare in incorrect announces a future premiere—Goorege's Faydeau's The Thistie. Like the other comedles by Feydeau The Thistie is a well written typical farce.

Mention should be made that the future premiere announces two Bycharost debuts I that of director Laurian Oniga and of scene painter Maria Malifa. In the roles there are two slars of Remanian comedy I Siela Popesca and George Mihaila.

Soon the Confedy Theatre in Bucharest will prement two interesting premieres Haimanul Baltag Inspector Baltag by I.L. Caragiale, and opera bouffe by Eduard Caudella, and Molibre's The School for Wives both directed, by the young and falented stage director Alexandru Darle.



Violinist Cristina Angholesou was invited to the Soviet Union for three concerts in Musouw, Leningrad and Kiev.

The young violinist (b. 1961) is a laureate of several prizes in home and foreign contests: First Prize at "Lirz do aur" Festival, Succava (Romania), the Special Prize of the Jury at "Ludwig Spoht" contest in Freining (Vest Germany), the First Prize at "Alberio Curui" contost in Naples (Italy), etc.

Zi. George Georgesa, Fr. dinand Letiner, Ilirosh fr. kasugi, etc.

Also. Valentin Gherik participated, as member at the Jury in some of the gas pa



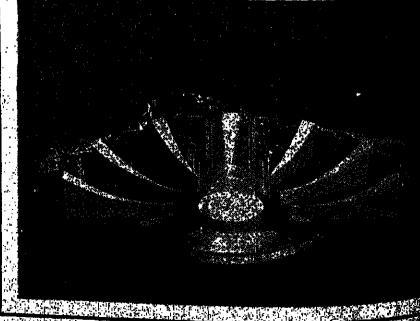
Romanian planist Valentin Gheorghiu made a tour of four concerts in the Ita-lian cities of Rome and Mi-

ian cities of Rome and Milian.

A personality of the Romanian lyrical stage, Valentin Gheorghiu studied the plano at the Bucharest Conservatory with professors Constanta Evbinaru and Mihail Jora and in Parls with Lazare Levy and Noel Gallon. The planist made numerous tours in almost all Ruropean countries in the USA, Canada and Japan, He participated in International festivals in Salzburg, Prague, Dubrownik, Bucharest, In 1966, upon a special invitation he made a recital remarked by the specialized press, for members of UN delegations in New York, He collaborated with important world recording companies; His Master's Voice, Pathe Marconi, RCA Victor, Supraphon, Victor, Eterna, Deutsche Gramophon and



Marked by the beneficial dialogue between "Nature and Scale Metaphor", the exhibition of Mugar Pason (b. 1951) staged of the Eforic Gallery in Bucharest, is a demonstration of seeing, (heated possibilities of the artistic space, by translating into images the postic text by means of original and subtle metaphoric codes itself rom life. Focused on two cycles of themes, two treat ideals nuclei (the poetry and dramaturgy of classic Inician Blaga and excepting from the poetic and dramatic creation of Radu Stunca) Mugar Pascu, a set designer of suthentio vocation at the State Theatro of Siblu, puty on view also solls models of scene painting proper, but his pastels made in a special technique develog the concept of traditional scene painting on a pattern taken from nature of the daily life. An outlook on nature marked by man's presence, becomes an estate of outlining pregnant scenic symbols deepening the philosophical message of the standing authors.



Ricetreeord, benefiting by the presence of famous ac-ductors like Rafael Roboll John Prichard, Robord Ru-zi, George Georgescu, Fa-dinand Letiner, Illroshi Vi-kasugi, etc.

Japαn.

Here we are again at Tanda-

Here we are again at Tändärick. The building facing Cosmonautifor Street — which houses also the central headquarters of the artistic institution (the theatre has two halls, the second one is on Victoriei Road) — is erammed with spectators watching Cute Little Girl Puts Killer Monster in the Corner by Eugenia Popovici Dumitriu. he show is tense, espilvating the audience with its avalanche of inventiveness.

espivating the audience with its avalanche of inventiveness. Ellena Conoviol, a founding member of the theatre, 11 years after retirement, hits the playbill again as both set designer and stage director. And she is back with her famous gift in puppetry, taking young and talented composer Markus Teicu as her parter in designing the show, But

ser Marius Tcicu as her partner in designing the show. But
before entering the half I am
surprised to meet in the lobby
rather familiar faces: a true
bistory of the Punch and Judy
Show art has recently been
spened here, properly illustrated with Romanian puppets representative of the past and premost of this genre. Mihaela ToDiza-Lordache, director of the

nitza-Iordache, director of the

Institute, and Viadimir Simion, literary secretary, whose opi-zions and information will be

representatives of the Rominian school of singler becluded wellknown page
from the operas Faus, il
Barblere di Siviglia, Le
Nozze di Figoro, Cost tan
tutte. Madome Butterly, la
Traviata, Rigoletto, La Fam
del destino. Lucia di Lam
mermoor, Cormen, Pagliad,
La Bohème, Die Entithnog
aus dem Scrail ele.

FRANCE A representative exhib-

tion of works by conlempting Romanian painter Norel Blürginean was opend at the Kutscha gallery la Sulzburg in the present of a numerous public. In the opening speech the organzers stressed the great sur-gestive force of the work on show, and the fee that they render in specific form the variety and richness of



ANOTHER WONDERLAND sorrow (some in a loud voice, too), they become true actors. "Children are the ideal speciators" I learn from my interlocutors, "you cannot fool them around. They believe sincerely what they hear and see because they have no cultural complex. The child's soul records sensations, perceptions, but also ideas composed and guided by artistic means. Because art is more striking and powerful than life. That is why the responsibility incumbent on us, theatre people, dealing with actors-puppets, is greater than that of ordinary theatres: the image is recorded and much later appears transfigured into decisive reactions, convictions and options".

A PILOT STATION OF PUPPETRY

World Council (and to its scientific research committee) whose proceedings unfolded in

This is the frame of mind of the Tandorica theatre when choosing its reperioire. Be-cause this art of all arts (see Goethe) can fortify and even mould a conscience, it can even form consciences and it is not at all improper to speak about theatre as a real means of no-ral construction. In the case of ral construction. In the case of children, in the educational process, the theatre plays an active role, and Tandarles has under-taken to assume such a mission upon its foundation, in 1949. The

up-coming shows of the season seem to meet this aim. Nearing completion is Dumbrava minu-nata (The Enchanting Grove), based on classic Mihail Sadoveanu's story with the same title. Cristian l'epino, an extremely gifted young man, who reaped many a success with Tändäricä, wrote the script with Tändäricä, wrote the script and now gives stage directions for the play. The experienced Brinduşa Zalţa Silvestru is about to put on a real show in a set designed by Anca Zbārcea. Valentin Polculescu will soon see the premiere of his Cei patru muschi tari (The Four Muscle Tensers) directed by Camelia Robo, according to a screen play by Daniel Rāduţā, Great efforts are made to stage Vinturā-Lume (The Adstage Vintura-Lume (The Adventurer) by and with Elens and Stefan Sändulescu, an inventive show covering eight numbers to Nicu Alifantis' mu-

Aspecis from shows of the Tandárica Theatre: A Midsummer Night's Dream by W. Shakespeare, directed by Cristian Pepino (top and middle): Little Red Riding Hood Adventures — script and direction Cristian Pepino; The Glovo after Mihal Eminescu — directed by Liudmila Szekely (bottom).



AGE WAVE-LENGTHS

Next year Tandarica will celebrate its 40th anniversary. Four decades in the service of art — we are thinking not only of the prestige acquired and enjoyed among Romanian spectators but also of the success scored abroad. Because this famous artistic collective is, among others, the holder of the Erasmus Prize, awarded in 1978 by the Dutch Foundation Praemium Erasmianum. It is a distinction annually awarded to fletion annually awarded to personalities or establishments which — according to the sta-tule — have made highly im-portant contributions to the European culture. The appreciation voiced by

The appreciation voiced by specialists and audience alike concerning the quality and modernity of the Romanian shows that Tandarica has been among the leaders of the international movement of the genre for almost four decades, it has imposed liself through the value of its reperioire, through the value of its reperioire, through its inventiveness, competence and fancifulness of its technique, means, its puppet-making sysmeans, ils puppet-making sys-tems. For instance, the ten full-house performances with Cris-tian Popluo's musical comedy Aventuri cu Scutita Rosto (The

Little Red Riding Hood's Ad-

Little Red Ridling Hood's Adventures) displayed before the Japanese public with tickets sold out several weeks before, were attended by all the great oreators of the genre in the world, present at the festival and at the World Congress of Puppeteers. That is why it was not by mistake that alrector Mihacla Tonitza-lordache was elected member of the World Council and of the Science Research Committee of the UNIMA Congress.

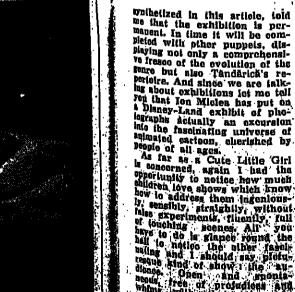
The prestige and large audience enjoyed abroad by the Bucharest theatre have been created in time with special investments of vocation and work. Audience and prestige which were first consolidated at home in Romania, in Bucharest, but also in many localities in the country, not only in its halls but also in kindergartens, schools, student camps, club, houses of culture, otc., proposnig front case to case, an adequate repertoire relatively homogenous, and of real artistic interest. The dramatic literature has been explored in all directions, in order to choose those creations which can best answer the educational function. And when the theatre's permanent repertoirs could not be built otherwise—so that the art of the puppet show may win the desired spiritual irradiation force—the theatre tried to find quasi-permanent collaborators among of-der or younger, sontemporary writers.

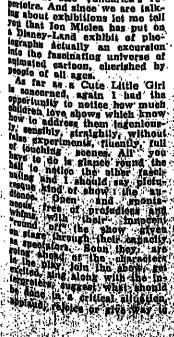
Therefore a various and determined the control of the puppet show may win the desired spiritual irradiation force—the theatre tried to find quasi-permanent collaborators among of-der or younger, sontemporary writers.

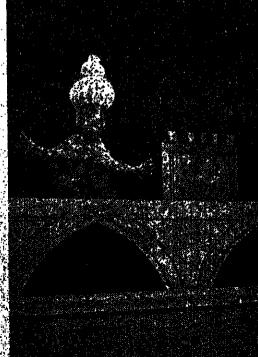
manont collaborators among of der or younger sontemporary writers.

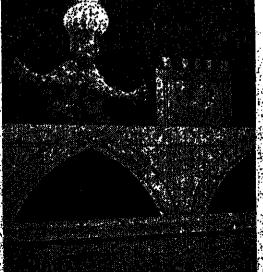
Therefore a variod and determining reperiors for the formality value of the theatrical act. By that Thudrich proved a constant respect for the art of the slaw, the cibical kense of the plays performed. The Bucharost feam understood that having children as speciators was a privilege, but also an obligation, in computition with the 18 Romania pupper theatres but also in international confrontations. That is why one of the most obvious recent cipies was a war partie and original values. That is why one of the most obvious recent cipies we are abstance of the factors show Cepta, but Tandarics (Tandarics (Case), — is to love post in world randoministic (Tandarics of the milional my the loves of the milional my the deep not want therefore to disavow its renawn of polici bitation for lovespoirs, in Romanie.

VLADIMIN UDRESCU W











15

New Year's Eve is welcomed with joy and hope everywhere. The towns are wearing festive clothes. The children, young and older people are full of optimism, gayety, faith in future prosperity.

New Year's Eve starts on Remania's tourist map from elevation zero. That is from the place where the sun rises, the Black Sea horizon. On the Romanian Black Sea const, in modern botols at Eferic, Neptun,

nal resiauranis: Intercontinen-tul, Athence Palace, București, Ambasador, Bulevard, Majestic, Parcul Trandafirilor, Lido, Do-robanți, Nan Jing (with Chi-nese specific), Varsovia (with Palish specific) and in pre-

ple — will celebrate the New Year's Eve in mountain chalcis. Tourist organizers, mon of fi-gures, of precision, told us that some 500,000 Romanian and foreign tourists will spend the New Year's Eve in units with tourist credits. A night thereusis-New Year's Eve in units win tourist profile. A night thoroughly prepared by the hosts. Matters of culinary art will prepare delicious menus, which will certainly include traditional dishes: forcement rolls of cabbage with malze porridge, the appreciated furkey consome.



fish, constment etc. All these sprinkled with excellent plum brandy and wines from the famous Romanian vineyards of Murfattar, Pietrousele, Cataari, Minis, Jidvel, Dragasani, Valea

Călugărească. Folk music ensembles, music groups, famous solo's's, dance and ballet troupes will perform varied programmes,

Significant in this respect cours to be the declaration of a Belgian tourists, Mrs, Mark Jeanne Joyeux who remarked after spending the New Year's Eve in Romania : "If you have the chance to spend the New Year's Eve and the vacation here, then you can say you've known traditions unequalled b the world."

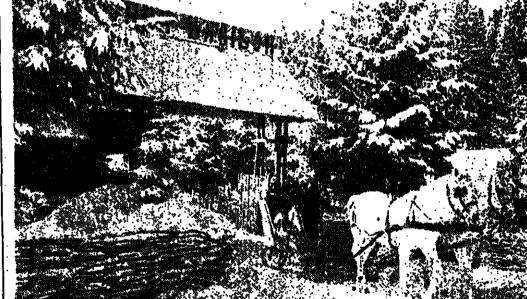
CORNELIU BÁRAN

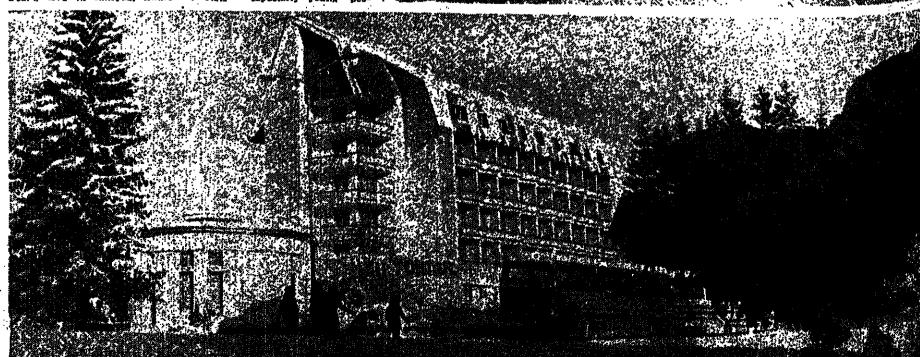
'89 will gather around ... rich tables over 8,000 guests coming from the whole country or from abread. We should also mention here the hosts' initiative: those foreign tourists who learn the quickest and best Romanian New Year's Eve customs are invited as winners of the contest, to spund their summer holidays on the Romanian littoral. If we followed the New Year's Eve celebrations on Ro-Year's Eve celebrations on Romania's tourist map it would appear as a fairy tele, varied, multicoloured amphitheatre. Its base would be the litteral and the towns along the Danube—Tulcos, Brails, Gaist, Giorg'u, Drobela-Turnu Severin where the season's celebrations with the atmosphore specific to the night separating two years gottor at tables not only Romanian and foreign tourists, but also navigators coming to the welcoming Romanian ports.

Before knowing the "higher toyles" of this amphitheatre, let us stop in Bucharest, the beart of the country, calebrating New Year's Eve in famous, tradio-

tourist complex Lebáda located on Pantelimon Island.
Which could be the following levels of this amphithentre of celebrating New Year's Eve? They are represented by the mountain resorts. One figure iells everything: Romania has over 160 mountain and balneal cure spas of national and local interest. In each of them the "longest night" will gather thousands and thousands of people.

ibousands and ibousands of neople.
In resorts like Polana Brasov. Singla. Fredeal. Vaira Dornel. Pallinis. Semenic. Slina de Valc. Duran. Herculane. Felix, thero will be many foreign tourists enjoying the aimosphere of Romanian New Year's Eve oclebrations. They come through iravel agencies with which the Carpati National Travel Office is counceded—from West Germany. Belgium, the Netherlands, France, Great Britain. Deamark, Norway, Sweden. Turkey, Israel. Yugoslavia. Czechasiovakia, the Giff, Bulgaria, the USA and Canada. Almost 15,000 tourists—espacially young peo-





THE NEW YEAR'S EVE IN ROMANIA

The famous resorts Poiana Brasov, Pre- | with high therapeutic value, rest, are ardeal, Sinaia, the pearls of the Romanian Carpathians as well as the spas Durāu, Slánic Moldova, Felix, Herculane, Cálimanești-Căciulata, Tușnad, a.o. are the best places to spend the New Year's Eve in

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